



**LAND USE PROGRAM**

**TRANSPORT SERVICES AND INFRASTRUCTURE  
OF  
CAPE YORK PENINSULA**

Gutteridge Haskins & Davey Pty Ltd

1995

**CYPLUS is a joint initiative of the Queensland and Commonwealth Governments**

**CAPE YORK PENINSULA LAND USE STRATEGY  
(CYPLUS)**

**Land Use Program**

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Recommended citation:

Gutteridge Haskins & Davey Pty Ltd., (1995). 'Transport Services and Infrastructure of Cape York Peninsula'. (Cape York Peninsula Land Use Strategy, Office of the Co-ordinator General of Queensland, Brisbane, and Department of the Environment, Sport and Territories, Canberra.)

Note:

Due to the timing of publication, reports on other CYPLUS projects may not be fully cited in the BIBLIOGRAPHY section. However, they should be able to be located by author, agency or subject.

ISBN 0 7242 6225 3

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# CAPE YORK PENINSULA LAND USE STRATEGY STAGE I

## PREFACE TO PROJECT REPORTS

Cape York Peninsula Land Use Strategy (CYPLUS) is an initiative to provide a basis for public participation in planning for the ecologically sustainable development of Cape York Peninsula. It is jointly funded by the Queensland and Commonwealth Governments and is being carried out in three stages:

- Stage I - information gathering;
- Stage II - development of principles, policies and processes; and
- Stage III - implementation and review.

The project dealt with in this report is a part of Stage I of CYPLUS. The main components of Stage I of CYPLUS consist of two data collection programs, the development of a Geographic Information System (GIS) and the establishment of processes for public participation.

The data collection and collation work was conducted within two broad programs, the Natural Resources Analysis Program (NRAP) and the Land Use Program (LUP). The project reported on here forms part of one of these programs.

The objectives of NRAP were to collect and interpret base data on the natural resources of Cape York Peninsula to provide input to:

- evaluation of the potential of those resources for a range of activities related to the use and management of land in line with economic, environmental and social values; and
- formulation of the land use policies, principles and processes of CYPLUS.

Projects examining both physical and biological resources were included in NRAP together with Geographic Information System (GIS) projects. NRAP projects are listed in the following Table.

Physical Resource/GIS Projects	Biological Resource Projects
Bedrock geological data - digitising and integration (NR05)	Vegetation mapping (NR01)
Airborne geophysical survey (NR15)	Marine plant (seagrass/mangrove) distribution (NR06)
Coastal environment geoscience survey (NR14)	Insect fauna survey (NR17)
Mineral resource inventory (NR04)	Fish fauna survey (NR10)
Water resource investigation (groundwater) (NR16)	Terrestrial vertebrate fauna survey (NR03)

Physical Resource/GIS Projects	Biological Resource Projects
Regolith terrain mapping (NR12)	Wetland fauna survey (NR09)
Land resource inventory (NR02)	Flora data and modelling (NR18)
Environmental region analysis (NR11)	Fauna distribution modelling (NR19)
CYPLUS data into NRIC database FINDAR (NR20)	Golden-shouldered parrot conservation management (NR21)
Queensland GIS development and maintenance (NR08)*	
GIS creation/maintenance (NR07)*	

\* These projects are accumulating and storing all Stage I data that is submitted in GIS compatible formats.

Research priorities for the LUP were set through the public participation process with the objectives of:

collecting information on a wide range of social, cultural, economic and environmental issues relevant to Cape York Peninsula; and highlighting interactions between people, land (resource use) and nature sectors.

Projects were undertaken within these sector areas and are listed in the following Table.

People Projects	Land Projects	Nature Projects
Population	Current land use	Surface water resources
Transport services and infrastructure	Land tenure	Fire
Values, needs and aspirations	Indigenous management of land and sea	Feral and pest animals
Services and infrastructure	Pastoral industry	Weeds
Economic assessment	Primary industries (non-pastoral, non-forestry)	Land degradation and soil erosion
Secondary and tertiary industries	Forest resources	Conservation and natural heritage assessment
Traditional activities	Commercial and non commercial fisheries	Conservation and National Park management
Current administrative structures	Mineral resource potential and mining industry	
	Tourism industry	

**CAPE YORK PENINSULA LAND USE STRATEGY  
LAND USE PROGRAM  
REPORT ON TRANSPORT SERVICES AND INFRASTRUCTURE**

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**CAPE YORK PENINSULA LAND USE STRATEGY  
LAND USE PROGRAM  
REPORT ON TRANSPORT SERVICES AND INFRASTRUCTURE**

**EXECUTIVE SUMMARY**

**1.0 INTRODUCTION**

This study investigates the issues relating to the provision of transport services and infrastructure on Cape York Peninsula as part of the overall CYPLUS Land Use and Natural Resource Analysis Programs to assist the setting of policy for the future land use of Cape York Peninsula.

The study investigates areas of:

- (a) The current provision of transport services and infrastructure;
- (b) The needs of residents and industry for transport;
- (c) The transport requirements for the development of new industry enterprises in Cape York Peninsula;
- (d) The overall costs of providing services and infrastructure; and
- (e) The environmental impacts of provision of transport infrastructure.

**2.0 TERMS OF REFERENCE**

The terms of reference for the study is summarised as follows:

**2.1 Inventory**

Prepare a comprehensive transport infrastructure and services inventory of:

- Roads
- Airfields
- Ports
- Public Transport and tourist services
- Freight and mail services

This inventory was entered into the CYPLUS GIS.

## **2.2 Appropriate modes of transport**

Identification of appropriate transport modes and criteria to be applied to transport provision including:

- Identification of industries, services and locations which are sensitive to transport;
- Identification of minimum access requirements to remote and small rural communities to satisfy social justice objectives;
- Identification of potential environmental impacts of transport infrastructure options, taking into account seasonal variations in intensity of use and current transport infrastructure standards.

## **2.3 Infrastructure**

A review of criteria used to determine transport infrastructure standards in Cape York Peninsula and impacts on maintenance requirements. This review should include an identification of associated costs and impacts, current administrative arrangements and existing funding structure to meet those requirements.

## **2.4 Transport issues**

A summary of transport infrastructure and service issues including an evaluation of the extent of transport constraints to the natural and human resources of Cape York Peninsula and potential options for meeting social, environmental, cultural and economic needs.

## **3.0 METHODOLOGY**

### **3.1 Review of reports**

Queensland Transport had undertaken a number of studies relevant to transport matters on a statewide basis which are relevant to Cape York Peninsula. Drafts of reports from other studies in the Land Use Program were also reviewed.

### **3.2 Questionnaire to Council and transport operators**

Questionnaires were sent to all Local Authorities and Aboriginal Councils seeking information on the infrastructure which serves the residents.

Questionnaires were also sent to operators of transport services in Cape York Peninsula on the details of freight hauled and the number of services per week. The data obtained has some limitations as the operators had limited resources to collate and provide detailed information.

### **3.3 Values, needs and aspirations survey**

As part of the Values, Needs and Aspirations Study particular questions were asked in respect of transport movements. The returns were analysed to obtain an overview of the movement of residents and goods throughout Cape York Peninsula.

### **3.4 Discussions**

Discussions were held with the following organisations:

- Cook Shire Council to obtain their views on the study;
- Queensland Transport passenger services division;
- Cairns 4WD Club on the condition of particular roads and tracks;
- Department of Defence concerning transport of personnel and equipment to RAAF Base Scherger;
- Queensland Department of Environment and Heritage on National Parks;
- HJM Environmental on future tourism trends;
- Landcare Management Services on matters relating to the Pastoral Industry.

### **3.5 Discussion papers**

Two discussion papers were issued through the People Working Group on:

- Industries sensitive to Transport;
- Existing Government Policies Access to Remote Communities.

## **4.0 EXISTING TRANSPORT SERVICES AND INFRASTRUCTURE**

The existing transport services and infrastructure are described as follows.

### **4.1 Roads**

The road network throughout Cape York Peninsula is extensive and ranges from formed and paved roads with drainage structures, unformed roads to grassed wheel tracks.

The road hierarchy based upon the function of the road is:

- Major Arterial Roads connect the major regions to the major centres south of the CYPLUS area;
- Arterial Roads connect the sub-regions of the CYPLUS area to the major arterial roads;
- Local Roads connect smaller areas to the major arterial roads and arterial roads and provide local connections between areas within the region.

(vi)

The following roads form major arterial roads in Cape York Peninsula:

- Peninsula Developmental Road (Mareeba-Weipa)
- Cooktown Developmental Road (Lakeland-Cooktown)
- Mein-Batavia Downs, Moreton-Bramwell and Bamaga Roads (Peninsula Developmental Road-Bamaga)

The following roads form arterial roads in Cape York Peninsula:

- Aurukun Road (Peninsula Developmental Road-Aurukun)
- Portland Roads and Iron Range Roads (Peninsula Developmental Road-Lockhart River)
- Dunbar-Rutland Plains-Kowanyama (Burke Developmental Road-Kowanyama)
- Kowanyama-Pormpuraaw Road
- Endeavour Valley Road
- Shipton's Flat Road and Rossville-Bloomfield Roads

All other roads are local roads.

#### 4.2 Aerodromes

Sealed runways are located at:

- Weipa
- Lockhart River
- Bamaga
- Horn Island
- Cooktown
- Kowanyama
- Coen

Unsealed runways are located at:

- Laura
- Pormpuraaw
- Aurukun
- Bloomfield which services the Community of Wujal Wujal.

The majority of aerodrome pavements on which Dash 8 aircraft operate as well as Weipa aerodrome on which jet aircraft operate are of lesser strengths than those normally required for the aircraft. In these cases the aerodrome operators issue pavement concessions. Pavement concessions for scheduled aircraft services result in more rapid deterioration of the runway pavement resulting in higher maintenance costs to the owner.

There are numerous landing strips maintained by property owners for personal use, mail services and emergency services. The current condition of landing strips not currently in use is unknown.

### **4.3 Ports**

The township of Weipa, remote coastal communities and island communities in the Prince of Wales Group rely on sea transport for freight services and some mail services. Sea transport is important in the wet season when roads are impassable.

### **4.4 Passenger services**

#### **4.4.1 Air services**

Regular air services operate throughout Cape York Peninsula to towns and communities. The frequency of the service varies between 3 to 12 flights per week. The majority of flights are centred on Cairns. There are no direct flights from Cooktown/Bloomfield River to any centre in Cape York Peninsula. This severs the administrative centre of Cooktown for the northern portion of the Cook Shire.

#### **4.4.2 Bus services**

Bus services operate between Cairns and Weipa, between Cairns and Cooktown, in the Cooktown area and on Thursday Island.

Subsidised school bus services operate in the Weipa and Cooktown areas.

#### **4.4.3 Ferries**

Passenger ferries operate from Bamaga, Hammond Island, Horn Island and Prince of Wales Island to Thursday Island.

#### **4.4.4 Taxis**

Taxis operate in Bamaga, Thursday Island, Horn Island, Weipa and Cooktown.

#### **4.4.5 Vehicular Ferry**

A vehicular ferry operates across the Jardine River. This ferry is the only means of traffic accessing Bamaga from the south. The size of vehicle which can use the ferry is limited by the ferry's capacity.

### **4.5 Mail services**

Air mail services operate within Cape York Peninsula by Cape York Air Services to centres which do not have a scheduled air service. The extent of this service is limited by funding. Residents of some properties still have to travel large distances to collect mail. There are a number of services provided by private contractors.

#### **4.6 Freight**

The majority of freight carried to the coastal communities is transported by barge. Inland communities rely upon road transport. A smaller tonnage is transported by an air freight service operated on demand throughout Cape York Peninsula.

### **5.0 INDUSTRIES SENSITIVE TO TRANSPORT**

#### **5.1 Pastoral industry**

The pastoral industry relies solely on road transport to transport stock. Approximately 18 000 to 20 000 head is turned off per annum and this occurs generally between April and October.

Transport costs are high for both transporting stock as well as for transporting fertilisers and chemicals for improved pasture methods.

There is potential for live cattle exports out of the Weipa port which would reduce transport costs to the industry.

#### **5.2 Seafood industry**

The seafood industry is not sensitive to transport infrastructure within the CYPLUS boundaries.

#### **5.3 Tourism industry**

From workshops held as part of the CYPLUS Land Use Program Tourism Project, the potential providers of infrastructure for tourists i.e., mainly Aboriginal groups, envisage low intensity tourism development in keeping with their traditional activities.

There is potential to market the Arafura Sea as a tourist area in a similar fashion to the Carribean. For this to occur it would be necessary to upgrade either Horn Island or Bamaga airports to cater for jet aircraft.

Improved infrastructure would benefit the industry, however, the operators and potential providers are not seeking improvements except for an airport at Bamaga or Horn Island.

There has been a steady decline in the number of tourist trips by road to Cape York over the past few years, refer Tourism Study Report. Improved roads would attract more trips as areas would be more accessible by conventional vehicles.

#### **5.4 Defence**

The operation of the forward defence base at RAAF Base Scherger will rely on air, sea and road transport to mobilise plant and equipment. The logistics of transport is currently being investigated by the Department of Defence. Regardless of whatever mix of transport modes is adopted, haulage between the port at Weipa and Scherger during the wet season on the existing road in its current condition has to be addressed.

Armed Forces exercises have required additional allocations for increased road maintenance. These allocations have only restored the roads to their previous condition after the exercise and, with exceptions, have not constituted road improvements.

#### **5.5 Mining**

The mining industry relies upon sea transport to transport mined products and air transport to mobilise and demobilise personnel.

#### **5.6 Extractive industry**

The location of sources of high quality aggregates and the cost of transport of these materials is affecting the development within Cape York Peninsula. To reduce the costs of raw materials, lesser quality locally available materials are used incurring higher maintenance costs.

#### **5.7 Education**

Some subsidised bus services are provided to educational establishments. For remote residents the only means of educating children is School of the Air with assistance from parents or boarding schools.

#### **5.8 Health**

The residents of Cape York Peninsula rely on local clinics at hospitals and clinics operated by the Royal Flying Doctor Service. For emergency treatment and medical procedures for non-emergent treatment, the patient is required to travel to provincial towns. This imposes a cost upon the patient.

### **6.0 TRANSPORT NEEDS OF REMOTE COMMUNITIES**

The transport needs of remote coastal and island communities are:

- Maintenance of existing barge services at reasonable cost;
- Upgrading of roads between the towns and the airport and barge landing.

Inland communities rely upon road transport.

(x)

Residents would use road transport more frequently if the roads were improved. The cost of existing air services is considered to be very high. Residents desire improved public transport services with subsidy towards the cost of operating the service. The responses from residents to the Values, Needs and Aspirations Survey do not represent the whole of Cape York Peninsula as there are no responses from some communities and the level of sampling in small population group needs to be up to 75% to obtain reliable data.

## 7.0 MINIMUM ACCESS STANDARDS

There are several Commonwealth and State Government initiatives for providing funding for access to remote communities under social justice criteria. The question for Government is to what level of funding can be made available for infrastructure to remote residents versus the provision of transport to residents in more densely populated regions. There is consensus that allocation of funding on a strictly per capita basis will not address the needs of residents in remote areas.

The minimum access to remote coastal communities should be all weather access via one or a combination of transport modes. Therefore, access may be provided by upgrading roads to airports and seaports as well as upgrading the airports and seaports themselves as opposed to upgrading the arterial road system which will be more expensive.

## 8.0 FUNDING

The costs of improving transport infrastructure throughout Cape York Peninsula are estimated as follows:

• Bitumen seal all major arterial and arterial roads to two lanes	\$ 612 M
• Upgrade existing aerodromes for Dash 8 without pavement concessions being required	\$ 18 M
• Upgrade all roads to airports to bitumen seal standard	\$ 36 M
• Upgrade roads to sea landings/wharf to bitumen seal standard	\$ 30 M
• Upgrade to landings	\$ 1 M
Approximate Total	\$ <u>700 M</u>

The cost of upgrading all major arterial and arterial roads could be reduced to \$ 155 M if the standard were reduced to a gravel road standard. Gravel roads are of a lower construction standard, lower safety standard and are not necessarily trafficable all year round. Both bitumen seal standard and gravel road standard will require funding for regular maintenance

(xi)

The funding available to road infrastructure over the next five years is approximately \$ 23 Million. To upgrade all major arterial and arterial roads to a gravel road standard will take 25 years to complete at this level of expenditure. At the current levels of expenditure completion of bitumen sealing of the Peninsula Developmental Road would take over 60 years.

## **9.0 POTENTIAL ENVIRONMENTAL IMPACTS**

Improved access to Cape York Peninsula will impact on the wilderness values of the region, the extent of which will depend on the level of improvements.

Construction of roads may impact on the environment by increasing potential for the erosion of land, siltation of streams, clearing of vegetation and the introduction of species of flora which are detrimental to the flora balance of the region. No research has been undertaken to indicate that plant life is adversely effected by dust. However, dust plumes from traffic on unsealed roads may cause adverse visual amenity while the roughness of dirt roads may have an adverse effect on passenger comfort and safety.

Construction of Ports may impact upon the marine environment by way of pollution, effects on breeding grounds, siltation caused by construction and changes in currents.

The main impact of construction of airports is the area of land cleared for the runway and obstacle limitation zones.

## **10.0 CRITERIA TO BE APPLIED TO INFRASTRUCTURE STANDARDS**

There is no uniform transport need across Cape York Peninsula as each area has its own particular need. Therefore, in assessing the criteria for infrastructure each community has to be viewed specifically and will be determined generally on the options available. Hopevale, Cooktown, Wujal Wujal have different infrastructure needs to say Bamaga, Seisia, Injinoo, Umagica and New Mapoon.

## **11.0 CONCLUSIONS**

From the study into transport services and infrastructure the following conclusions can be drawn:

- (a) Of the 3 500 km of roads in Cape York Peninsula 2 800 km is under the control of Councils. These roads are of a low standard of construction and funding in the foreseeable future will not significantly alter the status quo.

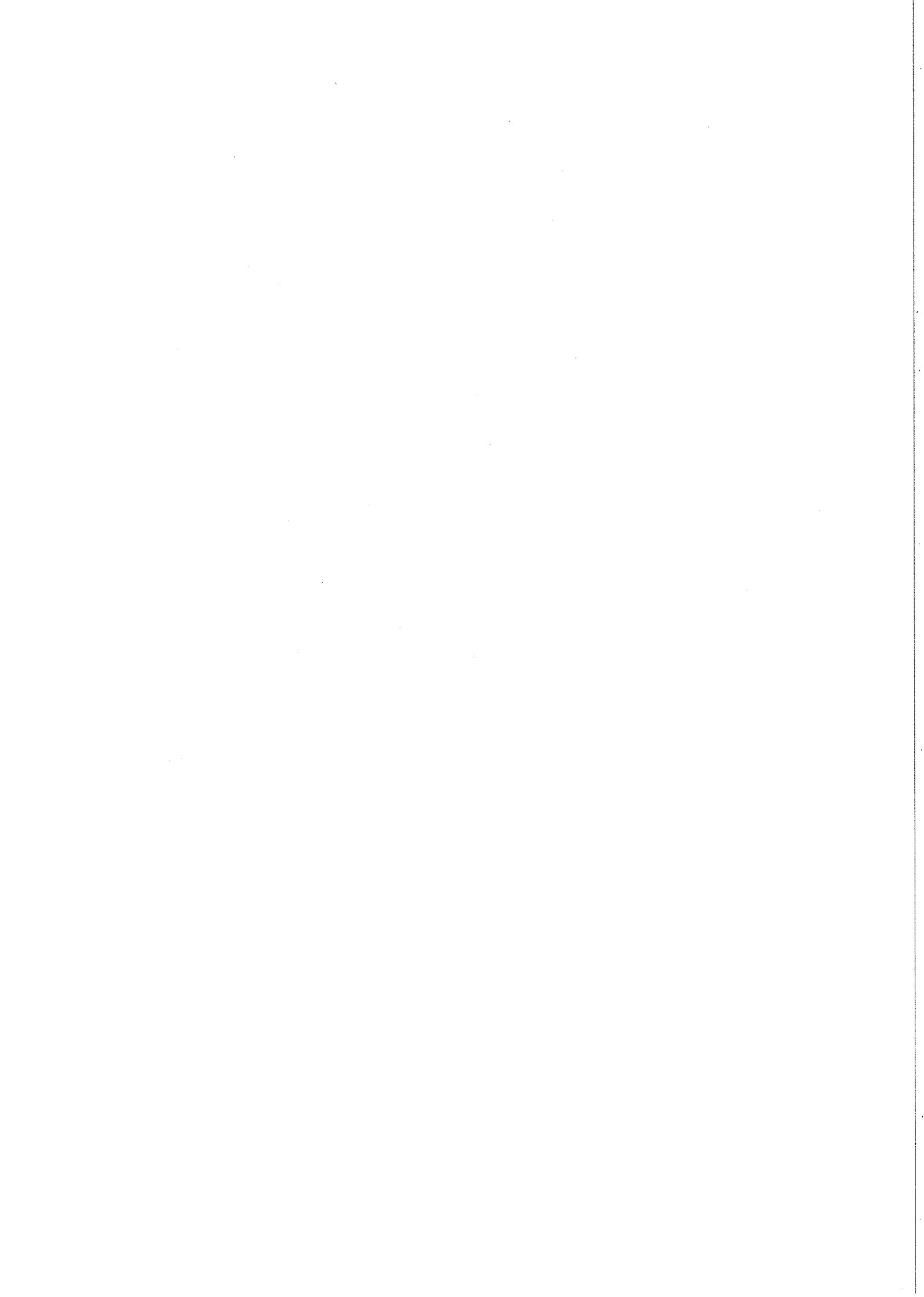
(xii)

- (b) Previous studies have suggested savings in transport costs of approximately \$ 13 Million annually by sealing the Peninsula Developmental Road. However, improving the Peninsula Developmental Road is a threat to the economic viability of barge services which coastal Aboriginal Councils regard as essential. Any accelerated programs to improve the Peninsula Developmental Road to an all weather road over its entire length will have to consider the cost of maintaining less viable barge services. However, the benefit to inland communities who rely solely on road transport has to also be considered.
- (c) The major industry which is sensitive to transport is the pastoral industry. This industry will overall benefit from upgrading of the Peninsular Developmental road. However, as the necessary improvements will effectively be well into the future before being completed, the industry must look to alternative markets which reduce its transport costs. Properties remote from the Peninsula Developmental Road would not benefit from the upgrading as much as properties in close proximity.
- (d) It could be reasonably expected that the tourism industry would benefit from improvement to transport infrastructure albeit the industry is not seeking any upgrade except for an airport at Horn Island or Bamaga to accommodate jet aircraft.
- (e) The pattern of travel is dependent upon the infrastructure available. In the southern part of Cape York Peninsula road freight and road travel to the Cairns region is used more than is the case in the northern part where sea and air travel is more widely used.
- (f) The means of travel by aboriginal people between communities needs to be investigated further. This information may be contained in the studies aboriginal communities are currently undertaking.
- (g) There are environmental impacts in improving Transport Infrastructure. These impacts should be addressed specifically in the planning phase of each project. The extent of vegetation clearing for each project needs rationalisation.
- (h) Governments recognise that equitable funding for transport infrastructure for people residing in remote locations cannot be determined on a per capita basis across the whole of the population nor on the basis of economic return. The minimum standard of access and the time in which it is reasonable to have this standard provided are the determinants for funding.
- (i) The minimum standard of access should be determined for a particular service. For example, all weather access via one or more means of transport may be appropriate for essential services such as health, emergency, mail and community, but other less stringent standards may be specified for freight, cattle and mining access. Transport services may require subsidy to make travel affordable. Subsidised travel may have a lesser cost to Governments than providing costly alternative infrastructure.

## **12.0 ISSUES FOR CYPLUS STAGE 2**

It is recommended that further stages of the CYPLUS Land Use Program investigate:

- (a) The economic potential of the pastoral industry to determine the justification for investment in transport infrastructure in accordance with the Government's guidelines.
- (b) The transport needs of residents in Aboriginal communities through the reports being prepared by the communities themselves.
- (c) The social justice criteria for access to pastoralists being on isolated properties.
- (d) That the minimum standard of access of having all weather access to one mode or a combination of modes of transport be adopted.
- (e) Governments determine the level of funding to be made available to complete the necessary minimum standard of infrastructure within an acceptable time period.
- (f) That for any infrastructure improvements the impact on other essential transport modes be considered and the costs to offset economic impacts be included in the project budgets.
- (g) A dedicated study be undertaken into freight movements throughout Cape York Peninsula. The funding for the study would make provision for the collection of data by the industry itself.
- (h) More detailed technical investigations and analysis of other studies which focus on what land use may occur in Cape York Peninsula. This input is needed to better define the context of transport services and infrastructure.



**CAPE YORK PENINSULA LAND USE STRATEGY  
LAND USE PROGRAM  
REPORT ON TRANSPORT SERVICES AND INFRASTRUCTURE**

**1.0 INTRODUCTION**

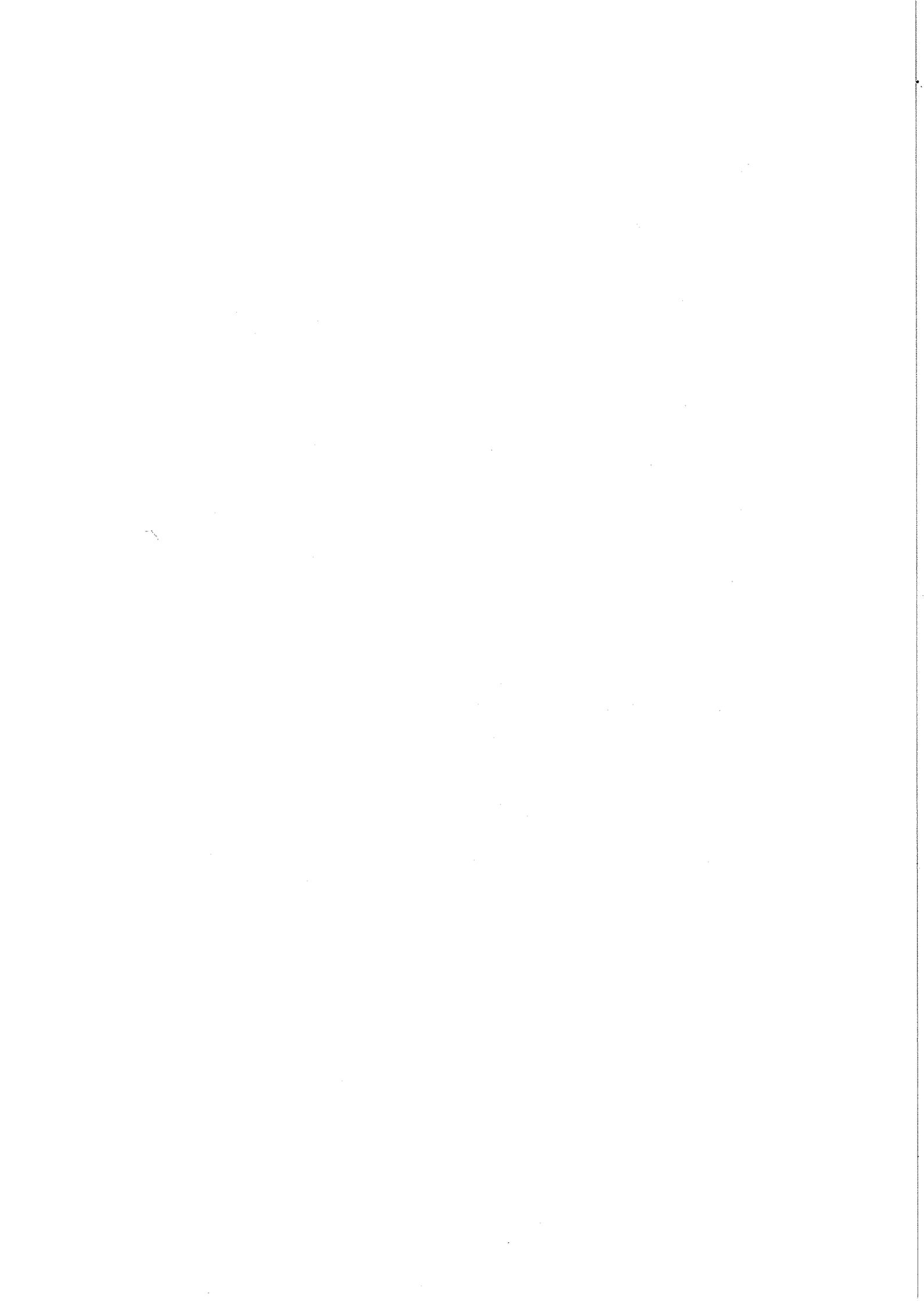
This study investigates the issues relating to the provision of transport services and infrastructure on Cape York Peninsula as part of the overall CYPLUS Land Use and Natural Resource Analysis Programs to assist the setting of policy for the future land use of Cape York Peninsula.

The development of Cape York Peninsula will generate a demand for transport services and infrastructure. The practicalities and cost of providing the necessary infrastructure or the demand for services not being sufficient to make a transport operation economically viable, may be a barrier to particular developments eventuating. Conversely, the desirability of particular developments proceeding to the overall benefit of the communities may require that some transport services be subsidised on the basis of social justice. Further, other studies in the Land Use Program may identify that the impacts of particular developments in Cape York Peninsula proceeding, or the transport infrastructure required may be socially or environmentally adverse so that the particular development would not proceed.

This study investigates the areas of:

- (a) The current provision of transport services and infrastructure;
- (b) The needs of residents and industry for transport.
- (c) The transport requirements for the development of new industry enterprises in Cape York Peninsula;
- (d) The overall costs of providing services and infrastructure; and
- (e) The environmental impacts of provision of transport infrastructure.

As this study is part of the first phase of the CYPLUS program all the matters are discussed for completeness. It is anticipated that certain items raised in the report will be subsequently dismissed in later phases of the CYPLUS Land Use Program when it becomes more evident which proposals are more likely to proceed. The study investigates the standards for infrastructure to meet the environmental, social, cultural and economic needs of Cape York Peninsula.



## 2.0 TERMS OF REFERENCE

The terms of reference set by the CYPLUS Taskforce in April 1994 are detailed below.

### 2.1 Inventory

Compilation of a comprehensive transport infrastructure and services inventory in consultation with local authorities, identifying:

- Declared and local roads including:
  - A defined road hierarchy,
  - An analysis of the impact and contribution of these roads and tracks to assess requirements of the local communities;
- Airfields including details of strip location type, dimensions, runway surface strip status, operator/owner details, road access to the nearest population base, and current air services;
- Ports including details on location, hydrographic and maritime information, associated transport infrastructure and facilities, tenure details, and availability and potential for acceptable road and land transport access;
- Public transport and tourist services and infrastructure currently in use (using information from *Services and Infrastructure*);
- Freight and mail services including the:
  - Analysis of the total freight moved in Cape York Peninsula by road, sea, and air including a wet and dry season analysis;
  - Major distribution and modal interchange points;
  - Cost benefit analysis of enhancing the flood immunity and any cost associated with upgrading the Peninsula Developmental Road.

### 2.2 Appropriate modes of transport

Identification of appropriate transport modes and criteria to be applied to transport provision including:

- Identification of industries, services and locations, which are sensitive to transport, taking into account:
  - Seasonal variations;
  - Links with the Cairns region;
  - Regional planning initiatives using information from *Economic Assessment, Services and Infrastructure, Pastoral Industry, Other primary industries*, other relevant sources, and Queensland Transport's statewide analysis of industry transport requirements.

- Identification of the minimum access requirements to remote and small rural communities to satisfy social justice objectives, based on:
  - A summary of government policies (using information from *Services and Infrastructure*), including the QT policy on transport provision to remote Aboriginal and Islander communities, the QT Road Network strategy, and Commonwealth access and equity policies; and
  - Survey of community access needs (to be part of the *Values, Needs and Aspirations* project).
- Identification of potential environmental impacts of transport infrastructure options, taking into account seasonal variations in intensity of use and current transport infrastructure standards.

### **2.3 Infrastructure**

A review of criteria used to determine transport infrastructure standards in Cape York Peninsula and impacts on maintenance requirements. This review should include an identification of associated costs and imposts, current administrative arrangements, and existing funding structure to meet those requirements.

### **2.4 Transport issues**

A summary of transport infrastructure and service issues including an evaluation of the extent of transport constraints to the development of natural and human resources of Cape York Peninsula and potential options for meeting environmental, social, cultural and economic needs.

### **3.0 METHODOLOGY**

The methodology adopted for the study is summarised as follows.

#### **3.1 Review of reports**

Queensland Transport had undertaken studies relevant to the transport matters on a state wide basis which are relevant to Cape York Peninsula. Draft Reports from the CYPLUS Land Use Program were also reviewed.

A list of documents reviewed are contained in the Bibliography.

#### **3.2 Questionnaire to Councils**

A questionnaire was sent to all Local Authorities and Aboriginal Councils, seeking information on the access to ports, airports and major roads on Cape York Peninsula. The questionnaire sought an inventory of the current usage and the access to transport services for the communities throughout Cape York.

A copy of the sample letter sent to all Councils is attached in Appendix A.

#### **3.3 Questionnaire to transport operators**

The freight hauliers, airline companies and shipping companies known to operate within Cape York Peninsula were contacted to obtain details of freight hauled and the number of services per week.

A sample copy of the letters to road hauliers, airline companies and shipping companies is attached in Appendix B. The amount of detail which could be obtained from this survey was limited as most companies were small operators who did not have the staff available to assemble the data. Further figures obtained were for tonnages despatched from the depot which were bound for several destinations. The figures of tonnages delivered to individual locations were not available.

#### **3.4 Values, needs and aspirations survey**

As part of the field survey for the Value, Needs and Aspirations Study particular questions were asked in respect to transport movements. The returns were analysed to obtain an overview of the movement of residents and goods throughout Cape York Peninsula. The overview was limited as not all communities agreed to the survey participating within their area.

The summary of the responses on general transport issues contained in the "Values, Needs and Aspirations" Draft Report January 1995 have been considered in this report.

### **3.5 Discussions with Cook Shire Council**

Several meetings were held with officers of the Cook Shire Council to obtain data on transport infrastructure within the Shire as well as obtain their views on transport infrastructure matters. GHD and Queensland Transport met with the Members of the Cook Shire Council to brief them on the conduct of the study and seek their comments on transport services and infrastructure matters.

### **3.6 Discussion papers**

Discussion papers were prepared on:

- Industries sensitive to transport;
- Existing Government Policies Access to Remote Communities.

These papers were distributed to the People Working Group and all Councils. The only responses obtained were from the Cook Shire Council and the Cape York Peninsula Pastoral Advisory Group inc., via the People Working Group, and Landcare Management Services undertaking the Pastoral Industries Study.

### **3.7 Discussions with Queensland Transport**

Discussions were held with Queensland Transport in respect to passenger transport operations within Cape York Peninsula as well as current works being undertaken on behalf of the Remote Communities by Queensland Transport.

### **3.8 Discussions with others**

Discussions were held with members of the study teams of other studies in the CYPLUS Land Use Program. These discussions were held to share information across the various programs.

Discussions were also held with:

- Cairns 4WD Club to obtain a description of the condition of the roads and tracks which are not designated as roads by the Cook Shire Council.
- Department of Defence concerning the transport operations required to equip the RAAF Base at Scherger during exercises and when the base is on alert.
- Mr Peter Harris of the Queensland Department of Environment and Heritage concerning the issue of National Parks and environmental matters relating to Cape York Peninsula.
- Messrs Peter James and John Courtenay of HJM Environmental Strategies undertaking the Tourism Industry Study on future tourism trends.
- Mr Bob Walker of Landcare Management Services undertaking the Pastoral Industry Study on matters relating to the Pastoral Industry.

## 4.0 EXISTING TRANSPORT SERVICES AND INFRASTRUCTURE

The existing transport services and infrastructure within Cape York Peninsula are described as follows.

### 4.1 Roads

The road network throughout Cape York Peninsula is extensive and ranges from formed and paved roads with drainage structures with low to medium flood immunities, formed and unformed roads with natural crossings of the beds of water courses to grassed wheel tracks.

The responsibility for the construction and maintenance of roads is as follows:

- Queensland Transport for State Controlled roads
- Local Authorities for all other roads

Under the Terms of Reference a hierarchy of roads is to be developed. The hierarchy has been developed on the basis of function the road serves as follows regardless of the responsible road authority.

- Major Arterial Roads: These roads connect the major regions to the major centres south of the CYPLUS area. They form the Primary road access into the CYPLUS area.
- Arterial Roads: These roads connect the sub regions of the CYPLUS area to the major arterial roads. The roads which connect a major remote community to the major arterial roads form the Arterial Road network.
- Local Roads: Local roads connect smaller areas to the major arterial roads and arterial roads and provide local connection between various areas within the region. Local roads include town streets, access roads to large pastoral holdings and roads within remote community areas.

The State Controlled Roads are:

- *Peninsula Developmental Road*

The Peninsula Developmental Road is 570 km long from the boundary between Mareeba and Cook Shires to the Comalco Lease boundary 40 km approximately east of Weipa. Only 35.8 km is bitumen sealed with the majority of this being south of the Palmer River. The average annual daily traffic (AADT) ranges from approximately 270 vehicles near the Palmer River to 65 vehicles between Coen and Weipa. As the road north of Lakeland is in some cases trafficable for 9 months of the year the average daily traffic during the period the road is trafficable will be higher than AADT figures.

This road is used to haul over 18 000 tonnes south of Lakeland and 7 000 tonnes north of Lakeland annually as general freight excluding livestock and pasture produce.

The estimated turnoff from beef production for the Cape York Peninsula is 18 000 - 20 000 head of which the majority would be hauled along the Peninsula Developmental Road south of Lakeland.

The Peninsula Developmental Road is a major arterial road in the Road Network.

- *Cooktown Developmental Road*

The Cooktown Developmental Road is 80.2 km long of which 14 km is sealed. The road is open to conventional vehicles all year round. The AADT ranges between 200 and 400 vehicles per day at various locations along the route. Approximately 11 000 tonnes of freight is hauled along the route. There is no currently available data on the estimated beef turnoff using this road.

The Cooktown Developmental Road is a major arterial road in the Road Network.

- *Endeavour Valley Road*

This road is 35 km long of which 10 km is sealed. The road provides access to the areas north of Cooktown and is trafficable all year round. The AADT varies from 500 vehicles near Cooktown to 250 vehicles near Battle Camp Road. In conjunction with the McIvor Road, the Endeavour Valley Road provides access to the Hopevale Community. The road is a local road within the road network. Details of freight hauled over this road are not available.

- *Shipton's Flat Road*

This road is 7.6 km long. With the Rossville-Bloomfield, Bloomfield-Cape Tribulation, Cape Tribulation-Daintree Roads this road provides an alternative 4WD access between the south and Cooktown. The AADT at the intersection with the Cooktown Developmental Road is 225 vehicles. The route south of the Bloomfield River is not trafficable to conventional vehicles and there is as a general desire to limit the use of the road through areas of environmental significance south of the Bloomfield River. Freight is hauled over this road to Rossville, Ayton, Bloomfield and Wujal Wujal, details of which are not available.

This road is an arterial road in the road network.

- *Thursday Island Road*

This road provides for local traffic on Thursday Island and therefore is a local road. There is no traffic count data currently available for this road.

The Local Authority Controlled Roads are:

- *Mein-Batavia Downs, Moreton-Bramwell and Bamaga Roads*

These roads provide access from the Peninsula Developmental Road to Cape York Peninsula. This is the only means of road access for five (5) Aboriginal Communities around the tip of Cape York to the south. These roads are unsealed and are trafficable for approximately 8 months of the year. The major stream which causes flooding is the Wenlock River and closes the road for 4 months of the year. The Cook Shire Council maintains the road as far as the Wenlock River. The majority of the maintenance north of the Wenlock River is undertaken by Queensland Transport's Remote Communities Gang using Transport Infrastructure Development Subsidy (TIDS) funding. The road is 317 km in length of which 248 km is unformed. The road is subject to bull dust for a 60 km section north of Bramwell and loose sand sections occur over the 50 km section between Heathlands and the Elliott Falls turnoff.

The carrying capacity of the Jardine River ferry restricts the size and number of vehicles which can gain access to roads north of the Jardine River.

Regardless of the standard of the construction, these roads are Major Arterial Roads in the road network.

- *Rossville-Bloomfield Road*

This road has been discussed above. The Cook Shire Council sees the link between Cape Tribulation and Cooktown as necessary to promote tourism for Cooktown. The Shire wishes to see the Cape Tribulation-Bloomfield Road upgraded to a bitumen sealed standard similar to the recent construction between the Daintree River and Cape Tribulation. The road is used for freight haulage for the Wujal Wujal Aboriginal Community. This road is an arterial road in the road network.

- *Portland Roads and Iron Range Roads*

These roads provide a connection between the Peninsula Developmental Road and the Communities at Portland Roads and Lockhart River. The majority of the road is through loose sand and the road is slippery, especially through the Iron Range National Park. The route is trafficable for 8 months of the year. Approximately 200 tonnes of freight is hauled over these roads annually.

These roads form arterial roads in the road network.

- *Aurukun Road*

This road is 108 km in length and is open to traffic for approximately 8 months of the year. The route runs generally along the top of the ridge between the Watson and Enderbee River systems except for the crossing of Jackin Creek and the section near the Peninsula Developmental Road. Two areas of Melon Hole country have been encountered. The route has been cleared for a two vehicle width formation.

This road is an arterial road in the road network.

- *Dunbar-Kowanyama Road*

This road provides access from the Burke Developmental Road to Kowanyama and is trafficable 9 months of the year. The road is also used by Pormpuraaw for the haulage of freight in preference to the road between Pormpuraaw and Musgrave. Approximately 1 500 tonnes of freight per annum is hauled over this road.

This road is an arterial road in the road network.

- *Kowanyama-Pormpuraaw Road*

This road is used to haul approximately 1 000 tonnes of freight per annum from the Tablelands to Pormpuraaw. The reason for this route being used to haul freight is due to the current contractor hauling to Kowanyama and the cost efficiencies of servicing both Communities.

Due to its importance as a freight route it is an arterial road in the road network.

- *York Downs - Batavia*

This road provides a connection between the Bamaga Road and the Peninsula Development Road at Sudley Station. It is used as the major route between Weipa and Cape York as it is 83 km shorter than travelling direct to the Peninsula Developmental Road at Mein and travelling along the Peninsula Developmental Road to Weipa.

This road is an arterial road in the road network.

- *Musgrave - Pormpuraaw*

This road provides a connection between Pormpuraaw and the Peninsula Developmental Road. The Pormpuraaw Council has requested Transport Infrastructure Development Subsidy funding in 1995/96 to upgrade this road.

At present this road is a local road in the network. However, if improvements are made and freight movements are diverted from the Kowanyama - Pormpuraaw road as a result of these improvements or changes in haulage contractor operations, reclassification to Arterial Road status would be appropriate.

- *Other Roads*

All other roads within the CYPLUS area under the control of Councils are used for access to small communities, and in some cases one or two properties as well as National Park Areas. These roads would be classified as local roads.

- *Tracks*

There are a number of tracks used throughout Cape York Peninsula by individuals to gain access to particular areas. These tracks could be either bladed or be wheel tracks through the vegetation which are seldom used except by four wheel drive clubs. These tracks have not been entered into the GIS data base as it is considered that they do not contribute significantly to the region's transport network.

- *Town Streets*

Because town streets do not contribute to the overall transport needs of the region they have not been investigated in this study.

It is noted however, that the standard to which the town streets are constructed does impact on the amenity to residents and that portion of the funds allocated to roads in Cape York Peninsula are assigned to construction and maintenance of town streets.

A summary of the road hierarchy is shown in Table 1.

A copy of the data entered into the CYPLUS GIS is attached in Appendix C-1.

**TABLE 1  
ROAD HIERARCHY**

<b>Road No.</b>	<b>Road Name</b>	<b>From to</b>
<b>Major Arterial Roads</b>		
90B	Peninsula Developmental	Mt Molloy - Laura
9048	Moreton - Bramwell	Moreton - Bramwell
9046	Bamaga Road	Bamaga - Bramwell
9008	Mein - Batavia Downs	Moreton - Peninsula Developmental Road
90D	Peninsula Developmental Road	Coen - Weipa
90C	Peninsula Developmental Road	Laura - Coen
91A	Cooktown Developmental Road	Cooktown - Butchers Hill
<b>Arterial Roads</b>		
9501	Aurukun Road	Aurukun Town to Peninsula Developmental Road
9031	Portland Roads Road	Peninsula Developmental Road 90D - Portland Roads
9044	Iron Range Road	Quintel Beach - Portland Road
9503	Kowanyama - Rutland Plains - Dunbar	Kowanyama/Carpentaria
9507	Pormpuraaw - Kowanyama	Pormpuraaw - Kowanyama
9050	York Downs - Batavia	Peninsula Developmental Road 90D (Sudley) - Batavia Downs
6601	Endeavour Valley Road	Cooktown - Battle Camp Road
6507	Shipton's Flat Road	Helenvale - Cooktown Developmental Road
9002	Rossville - Bloomfield	Rossville - Cape Tribulation Road
<b>Local Roads</b>		
9004	Laura - Lakefield	Laura - Marina Plains Road
9013	Kimba - Gamboola Road	Kimba Road - Gamboola
9051	Killarney Access	Killarney - Kimba Road
9021	Mt Amos Road	Mt Amos - Cooktown Developmental Road
9032	Archer Point	Archer Point - Cooktown Developmental Road 91A
9037	Wilton Access	Endeavour Valley Road - Poison Creek Road
9006	Strathaven - Coen	Strathaven - Coen
9007	Mt Webb - Wakooka	Lakefield - Starcke
9022	Dixie Road	Dunbar - Peninsula Developmental Road 90C
9034	Lilyvale Road	Lilyvale Station - Marina Plains Road
9003	Musgrave - Marina Plains	Musgrave - Marina Plains
9502	Cape Flattery	Strathaven - Cape Flattery
9039	McIvor Road	Endeavour/Battle Camp Road - Isabella/McIvor Road

**TABLE 1  
ROAD HIERARCHY**

Road No.	Road Name	From to
<b>Local Roads (Cont'd)</b>		
9001	Coen - Port Stewart	Coen - Port Stewart
9010	Coen - Rokeby	Peninsula Developmental Road 90D - Rokeby
9062	Bamaga Telegraph Road	Bramwell - Bamaga
9024	Holroyd Road	Peninsular Developmental Road 90C - Harrys Crescent
9047	Dixie - Kimba Road	Kimba - Dixie Road
9023	Kimba Road	Kimba - Fairview/Palmerville Road
9011	Fairview - Palmerville	Fairview - Palmerville
9020	Laura - Welcome	Laura - Welcome Station
9005	Musgrave - Strathgordon Road	Musgrave - Pommpuraaw
9012	Endeavour - Battle Camp	Old Laura Station - "Louisiana"
9014	Isabella - McIvor	Isabella Creek - Starcke
9506	Southern Access Road	Peninsula Developmental Road to Holroyd
9505	Koolatah - Dunbar	Koolatah - Dunbar
9049	Drumduff - Koolatah	Drumduff - Koolatah
9508	Dunbar - Dixie	Koolotah - Oriners
9024	Holroyd Road	Peninsula Developmental Rd - Harrys Creek
9509	Bamaga - Seisia	Bamaga - Seisia
9510	Bamaga - Injinoo	Bamaga - Injinoo

## 4.2 Aerodromes and landing strips

The major aerodromes in Cape York are:

- Weipa
- Lockhart River
- Bamaga
- Horn Island
- Cooktown

Regular commuter flights with connections to other destinations within Cape York operate from these aerodromes.

Sealed runways have also been provided at Kowanyama and Coen.

The communities within Cape York which do not have sealed runways are Pormpuraaw, Aurukun and Wujal Wujal which is serviced by the strip at Bloomfield. Unsealed runways service the township of Laura.

All other landing grounds service individual properties.

The study brief required that the dimensions of all runways be placed into the GIS. This data has not been entered as at this stage it is meaningless for the following reasons.

- The aircraft which can use a particular runway is not only governed by the length of the runway but also by the pavement strength.
- Aircraft currently being used on some aerodromes are doing so under pavement concessions given by the aerodrome owners who can place restrictions on loaded mass and tyre pressures. Some airfields are constructed for DC3's and are under stress from the current use of Dash 8 aircraft. Where the aerodrome operator grants a pavement concession which allows loaded mass or tyre pressures above the rating of the runway pavement, the operator accepts the financial risk of a reduced life of the runway.

It is therefore recommended that when considering what type of aircraft can use a particular aerodrome, the aerodrome operators be consulted and not the GIS.

A copy of the data entered into the CYPLUS GIS is contained in Appendix C-2.

## 4.3 Ports

The Port Services Branch of Queensland Transport has identified a number of potential sites for ports. Some of these areas are currently not serviced by any road infrastructure. Unless an industry located near these areas is established the establishment of a port will not eventuate.

Communities rely upon barge services. Barge services operate to:

- Pormpuraaw
- Aurukun
- Weipa
- Bamaga/Red Point serving Bamaga, Seisia, Umagico, Injinoo and New Mapoon communities
- Horn and Thursday Islands
- Quintel Beach for Lockhart River

Wharves have been constructed at Weipa, Bamaga/Red Point, Thursday and Horn Islands, Cape Flattery, Cooktown as well as a privately operated wharf of Ayton. The wharf at Ayton is used to ship timber product from the area and occasional bulk material into the area.

Existing and potential port sites have been entered into the CYPLUS GIS. A copy of the data entered is contained in Appendix C-3. Where potential port sites do not have existing road access, investigation of a suitable route is a matter for a separate study. The route may be largely dependent upon the use of the port.

The existing data does not provide an interpretation of the size of vessel which can use each site. Again the shipping will be a combination of the size of operation, potential for deepening the port, and type of vessels which could be constructed to overcome the navigation difficulties of the port site.

Weipa and the remote coastal communities of Cape York rely on barge services during the wet season for continuity of supply of essential goods. For viable barge services to be maintained for the wet season, Weipa and the remote coastal communities must use barge services throughout the year, albeit road transport may be more convenient in the dry season.

The following townships and communities are without direct (economic) access to sea transport:

- Ayton
- Rossville
- Wujal Wujal
- Hopevale
- Lakeland
- Laura
- Coen
- Kowanyama

These areas must rely on stockpiled goods during the wet season when roads are impassable.

#### 4.4 Passenger services

Details of numbers of passengers using passenger services have not been collected as all services are privately operated. The size of vehicle or aircraft used and the frequency of the service has been determined by individual operators on the basis of economics. Any changes in demand will be accommodated in the operator's means of providing the service.

##### 4.4.1 Air services

The towns and communities are serviced by regular air services, the frequency of which varies from 3 to 12 flights per week.

It is noted that the majority of flights are based upon Cairns. Flights to Cooktown and Bloomfield have Cairns as their only origin or destination i.e., to fly anywhere else within Cape York Peninsula from Bloomfield or Cooktown one must travel via Cairns. This flight pattern isolates Bloomfield and Cooktown from the rest of Cape York.

All intrastate scheduled and non-scheduled air services require licensing by Queensland Transport.

Air routes have been entered into the CYPLUS GIS. A copy of the data entered is attached in Appendix C-4.

From the returns from the Councils to the questionnaires, little mention of aircraft charters was made. The true extent of charters has not been determined.

##### 4.4.2 Bus services

The bus services which operate within Cape York Peninsula as advised by the Passenger Services Division of Queensland Transport are summarised as follows:

- Coral Coaches operate a four wheel drive ISUZU between Wujal Wujal and Cape Tribulation. The company also operates a 4WD bus service from Cairns to Cooktown via the Tribulation/Bloomfield/Rossville Road 3 days/week with Bloomfield as a transfer point for through passengers.
- Cape York Coaches operate a weekly service between Cairns and Weipa via Mareeba and Lakeland.
- A private operator operates a twice daily service between Cooktown and Hopevale for shopping trips etc.
- A bus service operates between the ferry on Thursday Island and the primary and secondary school.

Subsidised school bus services operate as follows:

- Wujal Wujal Coach operates a daily service from Wujal Wujal to the Bloomfield Primary School.
- Coral Coaches operate weekly services from Wujal Wujal to the Cooktown Secondary Department.
- A daily service operates from Hopevale to Cooktown Secondary Department.
- A service operates from the Napranum Community to Weipa.
- The service from the Communities of Seisia, New Mapoon, Umagico and Injinoo to Bamaga has lapsed and it is intended to reintroduce it.

#### 4.4.3 Ferry Services

The ferry service between Bamaga and Thursday Island is not subsidised by Queensland Transport.

Subsidised school ferry services operate from:

- Hammond Island to Thursday Island;
- Prince of Wales Island to Thursday Island;
- Horn Island to Thursday Island.

Government regulations as exist for passenger bus services have not been established for the operation of passenger ferry services.

#### 4.4.4 Taxis

In the absence of regular urban commuter bus services, passenger transport services are provided by privately owned taxis.

Exempted taxis operating in Cape York, as follows:

<u>No. of Taxis</u>	<u>Location</u>
1	Bamaga
17	Thursday Island
3	Weipa
2	Cooktown
1	Horn Island

#### 4.4.5 Airport commuters

One company operates a bus service between the Horn Island airport and the ferry. Three operators provide passenger transport services between the Lockhart River Airport and

Portland Roads using four wheel drive vehicles. A 4WD commuter service is provided on demand by the Airline agent in Coen (the Coen Post Office) to the scheduled airline services. The existence of these services were advised by the Passenger Services Section of Queensland Transport and the Coen Post Office.

#### 4.4.6 Vehicular ferries

The Injinoo Community operates a vehicle ferry at the Jardine River at a charge of \$ 80 return/vehicle. Vehicles over ten (10) tonne are transported subject to prior arrangement. The community actively discourages heavy loads which could be transported by other means. Large tourist coaches and dangerous goods, excluding fuel, are not permitted at all due to safety considerations.

#### 4.4.7 Legislation

The Transport Operations (Passenger Transport) Act was introduced in late 1994 and replaces the State Transport Act and Regulations. This new legislation will affect some passenger licencing requirements.

### 4.5 Mail services

Air mail services operate within Cape York Peninsula by Cape York Air Services to centres which do not have a regular scheduled air service.

There is a mail service between Cairns and Cooktown by road which operates Monday to Friday. This service carries some 680 tonnes/annum.

Mail services to Bloomfield area, Lakeland and Hopevale are predominantly by road.

The following mail is delivered to the communities by barge:

- Thursday Island      100 tonne per annum
- Bamaga                    20 tonne per annum
- Weipa                     50 tonne per annum
- Aurukun                  10 tonne per annum

The mail services operated by Cape York Air Services and the road service to Cooktown have been entered into the GIS. A copy of the data entered is attached in Appendix C-5.

The mail services provided by Australia Post and the Remote Area Mail Service funded by Queensland Transport are limited to the funding available. There are some people who have to drive long distances over poor roads to collect mail.

Other postal services provided by private contractors have not been advised by Australia Post. This deficiency should be addressed in Stage 2 of CYPLUS.

#### 4.6 Freight

The majority of freight carried to the coastal communities is transported by barge either from Karumba on the eastern shore of the Gulf of Carpentaria or from Cairns. Inland communities rely upon road transport.

A summary of the estimated freight to the various areas is contained in Table 2.

Centre	Transport Mode		
	Road (tonnes)	Sea (tonnes)	Air (tonnes)
Kowanyama	1 500	0	Unknown
Pormpuraaw	1 000 (3 000)	4 200 (2 000)	36
Aurukun	0 (3 000)	3 000 (5 000)	0
Weipa	7 000 (8 000)	80 000 (Barge 12 000)	9
Bamaga	0	2 000	50
Thursday Island	0	8 000	-
Horn Island	0	via Thursday Is.	120
Lockhart River	200	2 000	8
Cooktown	11 000	0	9

Figures (Brackets) are estimates contained in *"Regional Opportunities Identification Study Major Projects Cape York" 1992*.

DC3 Australia operates an air freight service on demand throughout Cape York. The major items carried are food supplies and furniture for public servants on transfer through the wet season i.e., December to March. The quantity carried is food supplies of approximately 65 tonnes per annum and furniture and other items of approximately 15 tonnes per annum.

The break up of tonnages transported by the different modes during the wet season and dry seasons have not been able to be obtained from the freight operators as they do not have the staff to assemble this data. To address this deficiency of data, Stage 2 should have a specific study on freight movements. For the industry to be able to research and collate data from consignment notes, financial assistance to pay for the cost of wages incurred will be required as the individual operators would not be able to absorb this cost.

## **5.0 INDUSTRY SENSITIVE TRANSPORT**

### **5.1 Pastoral industry**

The current herd size within the study area is approximately 130 000 head. Between 18 000 and 20 000 head of store cattle and cattle for slaughter are moved from the area annually. All cattle movements are by road as rail facilities are not available.

Beef produced in the northern region of Queensland is predominantly sold for manufacturing meat to export markets. It is expected that the demand for high quality beef product will continue.

Industry sources estimate that between 2% and 9% of selected cattle for slaughter from the Northern Region of the State are transported south to either feed lots or pasture for fattening before slaughtering. The remainder of cattle from the Northern Region are sold through the yards at Mareeba and processed in northern abattoirs.

Beef slaughtering in the Northern Region generally occurs between April and October (the main slaughtering season). At this time, cattle are at their peak condition. Dry winter months also allow easy transport of cattle to abattoirs.

Currently there is no information on whether or not the April-October period is controlled by the following two factors in combination.

- (a) The wet season and trafficability of roads dictate that the slaughtering season can start in earnest in April; and
- (b) Condition of stock through the summer months dictates the end of the season around October.

The figures from the Mareeba sale yards show a seasonality of supply of Peninsula cattle dependent upon the length of the wet season. This indicates that the trafficability of roads is the major influence.

Throughout Queensland 80% of all transport of cattle is undertaken by road transport. This trend is mainly due to the convenience which road transport provides in spite of the rail transport being up to 30% to 40% cheaper on long hauls. On the basis that the majority of cattle turned off is slaughtered within the region and the State trend to use road transport, rail transport would not be considered as a viable land transport option for Cape York Peninsula.

Projections for the potential cattle numbers range from 550 000 to 1 500 000 with annual turnoff between 16% and 20%. This would generate between 88 000 and 250 000 head to be transported each year. This equates to 4 400 to 13 000 decks per year or 2 200 to 6 500 truck/trailer units per year.

The cost of transport to areas north of Laura is limiting the potential of the industry in that area. The condition of the roads is also a major consideration which affects the condition of livestock due to bruising and being in transport in excess of 7 hours. The Peninsula Developmental Road Infrastructure Strategic Directions Volume 1 Report, (Queensland Transport October 1992) suggests a cost differential to the producer between hauling over gravel roads and sealed roads of 12¢/head/km. The Major Projects Cape York September 1992 suggests the differential of 12¢/head/km or \$ 443 000 per annum to the industry generally.

The high cost of transport affects every aspect of the pastoral operations. Production inputs which take advantage of modern technology to improve nutrition have not been widely adopted in Cape York as the cost of freight inwards make these less affordable. Practices such as mineral supplements and improved pasture establishment, which have been responsible for high gains in productivity in other areas, are virtually not available to Cape York due to high transport costs.

There are indications that there is a strong market for live exports. This could be achieved by using the existing wharf facilities at Weipa using a mobile loading ramp which is a relatively simple structure and can be easily manoeuvred on the existing wharf. The only infrastructure required is the construction of holding yards for 1 200 head in the vicinity of Weipa. Production of beef for live export would have the benefit of reducing the cost of transport to producers.

## 5.2 Fish and Seafood

The predominant fisheries areas within the CYPLUS boundary are for recreational fishing with the major commercial fisheries being outside the CYPLUS boundary. There is little reliance on infrastructure within the CYPLUS boundary by the fishing industry.

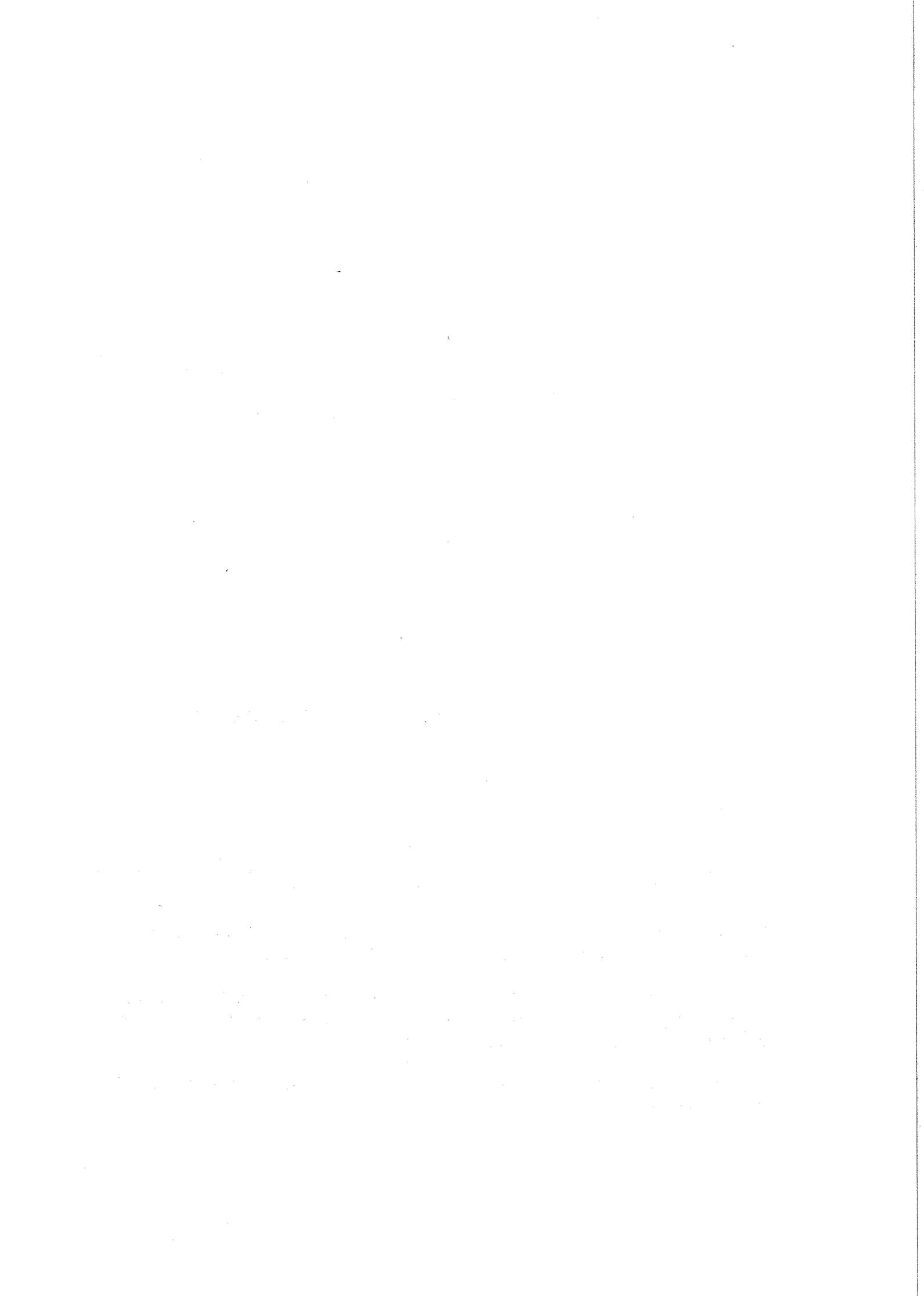
Predominant fishing area is the Gulf of Carpentaria which produced 12 000 tonnes in 1990-91. The adjacent Torres Strait Island Fisheries produced 1 200 tonnes during the same year.

The catch from the Gulf of Carpentaria is processed and packaged through Karumba for the southern markets. The catch from Torres Strait is shipped to Cairns.

Small operations in Weipa transport their catch to the south by road. The wet season does not impose on these operators as the fisheries are closed during that season.

Fishing operations in Princess Charlotte Bay are based upon mother ships taking catches to Cairns. Trawlers may be moored along the coastline with crews being flown in and flown out through areas such as Portland Roads via Lockhart River Airport.

In summary, the fish and seafood industry is not sensitive to transport infrastructure within the CYPLUS boundaries.



## 5.3 Tourism industry

### 5.3.1 Road Infrastructure

A paper was prepared by Queensland Transport titled "The Development of Tourism in Queensland and its Impact on the Strategic Road Network". The comments made in the paper do not necessarily reflect the views of the local tourist industry or the local communities who would be the providers of facilities for tourists. The Cook Shire Council has had no input into the paper.

The comments made in the paper and the responses from the local tourist operators are set out below.

- *Cape Tribulation to Cooktown*

*"With the ongoing development of tourist facilities, and tourist promotions, the region encompassing Townsville, Cairns and Port Douglas has experienced significant growth in tourism. Future tourist growth projection, along with improvements proposed for access by air to Cairns and Townsville, suggest a considerable further increase in tourism to the North Queensland region.*

*The stretch of road between Cape Tribulation and Cooktown has been identified as a prime coastal scenic route which will significantly enhance the tourism attraction of the area.*

*The road between Cape Tribulation and Cooktown, however, comprises 78 kilometres of unsealed road which also requires realignment and extensive drainage work. The proposed upgrading, though providing a coastal scenic road for tourism will undoubtedly face severe constraint in the form of opposition on grounds of environmental degradation. For the land through which this stretch of road traverses falls within the area proposed for World Heritage listing and needs to be handled sensitively and with great care; tourism development through sealing of the road may be in conflict with the plan envisaged for a World Heritage listed area.*

*It is also necessary to take into consideration the controversy that arose after completing the construction of the road between Daintree River and Cape Tribulation and the additional costs of making it an all weather road. It is, however, expected that bridging of the Daintree River, along with the proposed upgrading of the road, would increase tourist traffic into the area. It is also important to note that Queensland Tourist and Travel Corporation (QTTC) is not requesting the upgrading of the road between Daintree River and Cape Tribulation. However, the Local Authority has expressed an intention to provide some limited upgrading to facilitate the tourist industry."*

The Cook Shire Council see the Cape Tribulation to Cooktown road as important to the tourism of Cooktown. Bitumen sealing to a narrow two lane standard, similar to the recent construction between the Daintree River to Cape Tribulation, is sufficient.

The Douglas Shire Council is of the view that the Daintree River should not be bridged and see the existing ferry as a means of managing the number of vehicles crossing the river and using the Daintree to Cape Tribulation Road.

- "The attractions in the Cape York region in terms of tourism development are claimed to be similar to those of the Top End of the Northern Territory which has been gaining significant numbers of tourists. However, the Cape York region lacks the infrastructure facilities to support tourism on such a scale or indeed anywhere near it within the period to year 2000. The proposal, however, is to upgrade and seal the 533 kilometre stretch of road between Lakeland and Weipa as it is expected to attract additional tourism interests into Princess Charlotte Bay and Lloyd Bay, and other areas along the east coast. The proposed space base at Weipa is also considered to be another attractor. However, development of tourist infrastructure, along with road links of acceptable standard to these places are a prerequisite if the expected tourism interest in these areas is to materialise and the proposed upgrading of the 533 kilometre stretch of road should be tied to these developments and their promotions."*

The establishment of a space base anywhere on Cape York is generally considered by the CYPLUS People Working Group and others to be most unlikely. Discussions with the Australian Space Office indicates that there is still some interest in the proposal albeit the original proponents are considering alternative sites e.g., Northern Territory.

In general the Aboriginal Communities in Cape York are receptive to tourism and will provide facilities for a tourism theme based upon their traditional activities. The facilities provided will be small scale for a limited number of tourists (refer to CYPLUS Tourism Project Report).

The scene of the tourist using private four wheel drives will change with time. Four wheel drive trips by tourists have declined in recent years. Trips based upon driving one way and shipping vehicles the other will be more common (refer to CYPLUS Tourism Project Report).

- Cooktown Developmental Road - Cooktown via Mt Molloy and Lakeland*

*"Because of the significance of the voyage of discovery of Captain Cook in relation to Australia and its link with Cooktown, this area is a tourist attraction with major historical implications. However, at present, Cooktown is not accessible to many tourists unless by air, sea or by coach. With the projected increase in tourism into Queensland and more particularly to the northern coastal region of Queensland, the tourist potential of this historic town can be exploited if a motorable road access is made available. This could be provided by sealing an 82 kilometre stretch of road between Lakeland and Cooktown. If the proposed improvement to this stretch of road is carried out along with the improvements proposed for the coastal road between Cape Tribulation and Cooktown identified in Section 6.3.2, then an important ring road which traverses between Cairns and Cooktown presenting the benefits of an inland road along with a scenic coastal stretch will be made available to tourists making this area even more attractive. However, it is important to consider the environmental and World Heritage listing implications stated in Section 6.3.2 before a final decision is made and funds committed to the proposed upgrading of roads in the area."*

By September 1995 there will be only 68 km of unsealed road between Lakeland and Cooktown. Cooktown is accessible from Cairns by conventional vehicles via Lakeland all year round. The Cook Shire Council's views in respect of the Cape Tribulation to Cooktown Road are stated above.

The view of the local tourist industry is that the potential for tourism at Cooktown is not fully exploited and additional facilities are required. This could include improved wharf facilities and dredging the Endeavour River. As for the remainder of Cape York, tourism will not require any specific road upgradings and will utilise whatever road infrastructure is currently in place. It could be expected that upgrading of roads for other reasons would also benefit the tourism industry.

A contrary view taken by Queensland Transport is that tourist trips by road into Cape York Peninsula is limited by unsealed roads. Tourist trips would increase as roads are progressively sealed and flood immunity improved and more comfortable travel conditions are provided.

#### 5.3.1 Air services

The Arafura Sea encompassing Torres Strait and Papua New Guinea is a potential tourist area which could be marketed in a similar fashion to the Carribean. For this to be established it will be necessary to upgrade either the Horn Island or Bamaga Airports to be able to accommodate jet aircraft.

As discussed in 4.4.1 there are no air services to Cooktown operating from anywhere other than Cairns. Therefore, all air passengers in Cooktown must travel to Cairns to connect to services operating to other centres in Cape York. This is a disincentive to tourists travelling by air to other destinations in Cape York to visit Cooktown.

#### 5.3.2 Passenger services

There are a combination of tours available within Cape York Peninsula.

- (a) 4 wheel drive tours to Bamaga and return visiting national parks.
- (b) 4 wheel drive one way combined with sea or air the other.
- (c) Sea and air tours to Thursday Island.
- (d) Road tours to Cooktown via Cape Tribulation.

Under Queensland Transport's Policy the following applies to road based passenger services to tourists:

- Tour operators must have a permit to operate. No restrictions are placed on the number of operators who are issued with permits i.e., market forces dictate.
- Passenger vehicles travelling north of the Bamaga/Weipa turnoff or to Portland Roads must be four wheel drive.

There has been an attempt to operate tours with conventional tour coaches contrary to the policy. The damage to the road caused by this tour is excessive and the policy will be enforced by Queensland Transport. The ferry at the Jardine River is not capable of carrying large passenger vehicles with safety.

### 5.3.3 Private tourists

A number of trips through Cape York Peninsula are undertaken in private four wheel drive vehicles either as small groups or associated with registered four wheel drive clubs. These trips are undertaken on a wide cross section of roads in Cape York from the Developmental Roads to grassed tracks used perhaps several times per month.

The extent of any increase in private tourists travelling to Cape York Peninsula with the roads improved would depend upon which roads were improved and whether 4 wheel drive vehicles are still required to visit the main attractions of Cape York Peninsula which are off the arterial roads.

## 5.4 Defence

The establishment of the forward defence base at Scherger near Weipa requires transport services. The base will be operational during exercises and contingencies. From discussions with Defence Force Personnel the means of transport will be determined as follows:

- For exercises; the most economical cost;
- For contingencies; the quickest and safest.

The personnel will most likely be mobilised by air.

The Department of Defence is looking at the movement of four categories of supplies and equipment.

- Fuel;
- Explosive ordinances;
- Instruments, equipment, medical supplies;
- Catering supplies such as food and cooking equipment.

The supply of fuel and explosive ordinances is being currently investigated for all forward defence bases in Australia including Scherger. The report on these investigations and recommendations are not available currently.

For the latter two categories, the use of existing transport services e.g., road freight and barge services is being considered, with perhaps support from army transport vehicles and Navy vessels. This report has not been commenced.

Access to certain parts of these reports once they are completed, will be restricted.

It has been suggested that the majority of the transport services can be provided through the port of Weipa. This raises a number of matters for the Department of Defence to resolve.

- (a) The conditions of hauling over the existing road from the port to Scherger during the wet season. Sealing of the road over its full length has to be considered.
- (b) The closure of the port by the sinking of a ship in the main channel. This can be overcome by the use of shallow draft barges.
- (c) The closure of Torres Strait to shipping in the event that mines are laid in the shipping channels. This would require that shipping be diverted around the west of the Australian Continent, or supplied via Darwin or Kurumba. It has been suggested that a road be constructed between Cooktown and Weipa with the port facilities at Cooktown improved to provide an alternative means of supplying the air base.

Hauling of the majority of supplies along the Peninsula Developmental Road is only possible during the dry season. Further during contingencies, the full length of the Peninsula Developmental Road could not be successfully defended over its entire length. Vegetation would provide sufficient cover for aggressors to destroy a supply convoy with current infantry equipment.

The impact of the Scherger Base on the road system of Cape York is difficult to quantify. Specific matters during the construction phase such as the haulage of quarry products from the Archer River, have been dealt with at the particular time. The Base is due for completion in 1999 and, therefore, the construction activities will have little impact on the long term road system of Cape York Peninsula. The longer term impact on the road system will be caused by the mobilisation of equipment during exercises. However, as the frequency of and the number of personnel taking part in exercises or the preferred mode of transport are unknown, no impacts or benefits in undertaking improvements to transport infrastructure can be assessed. However, the volume of traffic generated by the exercises can be significant and, if this occurs during peak tourist season, it may have an adverse effect in terms of visual amenity, passenger safety, and travelling times.

It would be reasonable to expect that some use of the road will be generated by the staging of exercises and that some remedial works may be required. This may be effectively executed by programming of normal maintenance operation to coincide with the exercises.

Previous defence exercises have caused significant additional traffic volumes and damage to the road, which has required maintenance during the exercises with remedial work upon completion. The additional cost of this additional maintenance to offset the road damage has been borne by the Department of Defence. While this funding is additional to funding provided by Queensland Transport, these funds only restore conditions to status quo with little overall improvement to capital works. A notable exception is the Department of Defence's contribution to the Queensland Transport's project between the Archer River and the Main Deviation. The contribution was in lieu of having to upgrade the existing section of road for haulage of quarry materials to RAAF Base Scherger.

The defence traffic (usually in convoys) and the resulting maintenance work disrupts and delays normal traffic, creates hazard due to dust, and is seldom done with routine maintenance.

### 5.5 Mining

The two mining operations are:

(a) *Bauxite around Weipa*

Alumina is shipped from Weipa for further processing at other destinations around Australia and overseas. Because of the large quantities and distances involved, this industry has based its bulk transport around shipping.

(b) *Silica Mining at Cape Flattery*

This industry has also based its transport operations around shipping. All the silica is exported from Cape Flattery.

Other sites at which there are known reserves are:

- Gold mining activities on Horn Island ceased production in 1989. There are still gold resources on the island. However, based upon the very short time in which the mine operated, reworking of these deposits may not be economically viable.
- An exploration permit has been granted for Kaolin mining at Skardon River 85 km north of Weipa.
- Exploration for Mineral Sands has been undertaken at Shelbourne Bay and Margaret Bay. The port facilities for these areas are subject to the Great Barrier Reef Marine Park or the World Heritage Conservation Act.
- Exploration was undertaken for heavy mineral sands north east of Coen between the Chester River and Massey Creek.

Whether these sites are worked will ultimately depend upon the economics of the operation, land tenure, e.g., Native Land Title, and the outcomes of Environmental Impact Assessments and Impact Assessment Studies which will address specific transport issues such as roads, airports and seaports.

The mining industry has relied on air services to fly staff in and out with little reliance on road transport.

### 5.6 Extractive industry

The development of infrastructure within Cape York relies upon the availability of building aggregate materials. There are no sources of suitable quarry materials west of the Great Dividing Range.

The quarry products for the new RAAF Base at Scherger requires the haulage of 220 000 tonnes from the Archer River 180 km away. To undertake this haulage a specific traffic management plan has been prepared which covers road maintenance and traffic safety on the unsealed roads.

Quarry aggregates have been supplied by barge from Horn Island to various communities on the coast of Cape York.

To overcome the high cost of quarry aggregates, local materials such as bauxite have been used as concrete and bitumen sealing aggregates. Performance of these materials in service as aggregate is relatively poor and more frequent maintenance of structures and pavements is required.

Therefore, the cost of transport will have a significant impact on the construction of facilities and community infrastructure projects generally.

### **5.7 Education**

Access to educational facilities is an important need of the population and impacts on the provision of education services in the most cost effective manner. The availability of schools throughout Cape York Peninsula is covered in the Services and Infrastructure Study.

As discussed in Section 4.4.2 Queensland Transport runs subsidised school bus services to schools to Bloomfield, Cooktown, Weipa and intends to reintroduce the service that operated between Seisia, New Mapoon, Umagico and Injinoo to Bamaga. Subsidised ferry services operate to Thursday Island from Hammond and Horn Islands.

The option for residents in other areas is travel to local schools in the Townships and Communities by private means or in more remote locations School of the Air with assistance from parents. Where there is no reasonable access to a Secondary School or Secondary Department, students have to board in provincial centres which involves travel to provincial centres.

### **5.8 Health**

Access to health services is an important need to the population. The type of facilities which are provided in centres in Cape York Peninsula is covered in the Services and Infrastructure Study.

Many residents in Cape York rely upon weekly clinic services provided by the Royal Flying Doctor Services. In many cases where hospital facilities are available there are no resident doctors as is the case in most of rural Queensland. In cases of accident or acute serious illness patients have to be evacuated by air to provincial towns such as Cairns and Townsville. The condition of the road over which the patient must travel to the airfield is important and the road being untrafficable during the wet season presents additional difficulties. Property owners maintain their own airstrips which are generally close to the homestead.

Because of the need to evacuate a patient, any person who accompanies the patient has to find their own transport and accommodation in the provincial cities which can be expensive if they are unable to stay with friends or relatives.

For non emergency medical treatment which requires treatment at the provincial towns, patients have to arrange their own transport. This treatment may require a number of visits to the provincial centres.

Not all medical procedures are available in Cairns and Townsville and patients living in those towns have to travel to Brisbane for some treatments. However, the range of treatments available to residents of Cairns and Townsville are extensive where as the treatments available to residents of Cape York Peninsula at their local centres and clinics are limited.

## 6.0 TRANSPORT NEEDS OF REMOTE COMMUNITIES

### 6.1 Infrastructure needs of remote Councils

GHD surveyed the Remote Coastal Aboriginal and Torres Strait Islander Councils for the priorities for upgrading of Transport Infrastructure. The priorities surveyed were:

- Improvements to aerodrome;
- Improvement to the Access Road from the township to the aerodrome;
- Improvements to the sea landing;
- Improvements to the access road from the township to the landing;
- Improvements to the access road from the regional roads to the Township. The regional roads were defined as the Peninsula Developmental Road and the road between Mein and Bamaga.

The Council was asked which areas have the major priority to the Council and secondly in which areas are they directing their own funds on scales of 1 to 5. One was high priority and five was little priority.

From the responses by the Councils the overall order of priorities were.

1. Improve access to regional roads
2. Improve access to sea landings
3. Improve sea landings
4. Improve access to aerodromes
5. Improve aerodromes

The individual responses are shown in Table 1 (Appendix D).

When looking at the other information surveyed it was apparent that there were instances where particular Councils had a high standard in one or more of the above categories. Therefore, in this instance the least prioritised i.e., Priority 5. was removed from the Table.

The overall priority for improvement for infrastructure in this case were:

1. Improve access to regional roads.
2. Improve access to sea landings. However, the Councils were placing a higher priority in their actual allocation of funding to this category than to improvements to the access to the regional roads.
3. Improve access to aerodromes.
4. Improve the sea landing.
5. Improve aerodromes.

The responses are shown in Table 2 (Appendix D).

A further review of the individual responses of the Councils showed that whilst half of the remainder of respondents, had placed Priority 4 on the improvement to the aerodrome, these were currently serviced by sealed aerodromes. The Priority 4's were also removed from the analysis. The overall priorities then were:

1. Improve access to sea landings.
2. Improve access to regional roads and improve aerodromes.
3. Improvements to sea landing.
4. Improve access to aerodrome.

The responses are shown in Table 3 (Appendix D).

It may be concluded therefore, that whilst there is a priority placed by the Councils on the improvements to access to the regional roads the need to improve access to the sea landings was of high priority and that upgrading of the runway was a very high priority to those Councils who were not serviced by a sealed runway. It is of interest that Torres Shire who owns and operates a sealed runway on Horn Island, has placed the upgrading of the runway as its highest priority. This work has been completed since the Council responded to the questionnaire.

The emphasis on barge transport is reflected in the statement from the Cape York Land Council. "Road planners need to note that road development cannot take place in isolation. This is particularly the case with barge services and road development. Providing better road access will make barge delivery less attractive in some areas. This will have enormous ramifications for other Aboriginal communities where barge delivery is the only practical method. That is, the ending of some barge delivery services could put in jeopardy the delivery of basic services to other areas because they become uneconomic."

## 6.2 Infrastructure needs of residents

The information from residents via the Values, Needs and Aspirations Survey are available from the following areas:

- Prince of Wales Group;
- Cooktown/Hopevale/Bloomfield;
- Coen;
- Pastoralists;
- Weipa.

The summaries of the results for particular areas are contained in Appendix E.

The needs are discussed for the particular areas below. Respondents who nominate more than one (1) centre or mode of transport have each response recorded in the percentage figures. Therefore, the total percentage in any one (1) response area may exceed 100%.

### 6.2.1 Prince of Wales Group

The majority of the population purchase their food and household items at stores on the Islands and in Cairns. 10% use Cairns exclusively. The majority of these items are transported by sea with 13% of respondents stating that some items are delivered by air.

77% of respondents use the medical and professional facilities on the Islands with 34% using facilities in Cairns and 5% using facilities in Townsville or Brisbane.

The travel to facilities on the Islands is predominately by vehicle with 8% walking and 8% travelling by sea. The trips to the centres off the Islands is by scheduled air services.

All respondents have social and cultural activities on Thursday or Horn Islands with 44% visiting other communities and 20% travel to Cairns. The predominate means of travel off the Islands or between Islands is via sea or scheduled air services.

All recreation activities are undertaken on the Islands.

Air transport and sea freight are the major transport needs of residents in the Prince of Wales Group of Islands.

### 6.2.2 Cooktown/Hopevale/Bloomfield

The centres for food and household items are Cooktown, local community stores, Cairns and Mareeba/Atherton. The majority of respondents obtain these items at Cooktown and the community stores. 40% of residents obtain some items from the Cairns/Mareeba/Atherton area. Generally items are delivered by road freight or picked up using private vehicles.

The centres to which respondents travel for professional and medical services are local communities at Hopevale or Wujal Wujal 40%, Cooktown 50% and Cairns 30%. The travel is predominately by private vehicle with approximately 10%-15% by scheduled air service which is approximately half of the travel to Cairns.

Their social and cultural activities are generally within the local community or Cooktown. 30% of respondents stated they travelled to Cairns. The majority of travel is via private vehicles.

The majority of recreation trips are to destinations within the local area and the majority of trips are undertaken by 4 wheel drive vehicle.

### 6.2.3 Coen

80% of respondents of Coen stated that they purchase food and household items at Coen with 40% purchasing these items at Mareeba/Atherton and 40% purchasing items at Cairns. All supplies are delivered by road freight.

All respondents travel to medical and professional services by road. 60% travel to Coen with 60% travelling to Cairns.

The centres for cultural activities nominated are distributed along the Peninsula Developmental Road and Cooktown and Cairns. All travel is by private vehicle.

Recreation activities are generally undertaken by travelling by 4 wheel drive to Port Stewart.

Sealing of the Peninsula Developmental Road would result in respondents travelling by road when they now fly. Some air freight would be used for urgent items. Stock would be moved at periods other than are currently possible.

#### 6.2.4 Pastoralists

Some caution must be exercised when interpreting the results from pastoralists for the following reasons:

- (a) The sample size of persons being on remote properties and outstations was 20% of people in this category, compared to a 2% sample of the remainder of the population of Cape York Peninsula. Only four (4) responses were identified as being pastoralists out of a total of 24 properties. Some respondents on remote properties may have identified their occupation as being other than pastoralist and therefore their being on a remote property cannot be identified.
- (b) There is over the whole survey a 63% non response to the survey among non Aboriginal and Torres Strait Island population.
- (c) All pastoralist respondents gave their location as being south of Coen.
- (d) Because of the small population base a high percentage i.e., up to 75% of the population need to be sampled i.e., 15-18 responses obtained from pastoralists to have any confidence in respect of the trend of transport needs.

Food and household items are purchased in Cairns and Mareeba. The respondents south of Musgrave picked up these items by sending a property vehicle whereas the respondent in the Coen area used road freight.

The centres travelled to for medical and professional services were Cairns, Mareeba, Coen, Laura and Weipa. All travel to these centres is by road. There is a reliance on the Royal Flying Doctor Service for medical services.

The centres relied upon for cultural and social activities are Cairns, Mareeba/Atherton, Laura and Coen. All travel to these centres is by road.

The centres for recreation are Melsonby, Port Stewart, local water holes and Laura. The majority of travel is by 4 wheel drive vehicle.

"Regional Opportunities Identification Study Major Projects Cape York 1992" indicates that Stations use their own vehicles, mainly 4WD or truck, to pick up supplies mainly from Cairns and Mareeba. There is some reliance on air services for perishable food items and office supplies.

Sealing of the Peninsula Developmental Road would increase the use of road transport for private travel and supply of household items and food. Two out of three respondents stated that they would move stock and produce at periods other than they do now whereas the other respondent stated this would not occur.

#### 6.2.5 Weipa

The majority of purchases for food and household items are made at Weipa. However, 33% of respondents stated they purchased items in Cairns. The majority of the items are delivered by road freight or sea. The survey results show that 41% obtain these items by private vehicle, travelling to the centre. This response would be from those people who travel into Weipa to collect these items. Only 60% stated that they would use road freight if the Peninsula Developmental Road was sealed whereas 40% stated that they would still use air freight services.

48% of respondents rely on Weipa for medical and professional services with 40% relying on Cairns or the Atherton Tablelands and 10% relying on Brisbane. The means of travel to these centres are 63% by road and 37% by aircraft. 80% of respondents stated that they would drive in preference to flying if the Peninsula Developmental Road was sealed. 20% stated that they would still fly.

The local community or Weipa are the centres relied upon for social and cultural activities with the majority of travel being by road. As all respondents gave their location as within a 50 km radius of Weipa, this response is expected.

For recreational activities 76% stated they use local destinations and 20% travel to Cape York. The predominant means of travel is by 4 wheel drive with 12% by conventional vehicle and 18% by sea.

#### 6.2.6 Aboriginal people

No responses are available from Aboriginal communities except Hopevale and Wujal Wujal.

The method of collecting the views of Aboriginal people by distributing questionnaires to Aboriginal people has been criticised by the Cape York Land Council as "not the most culturally appropriate". Under the terms of reference of the commission for this study, the means of obtaining views from residents of Cape York Peninsula was via the Values, Needs and Aspirations Study. It is acknowledged that the short Study Program did not permit the VNA Study Team to pursue more appropriate means of obtaining the views of Aboriginal people.

In discussions with the Council Clerk at the Injinoo Community and the report for the Manth Thyon Association the following trends emerge.

Aboriginal people in general do not have access to 4 wheel drive vehicles and therefore rely on passenger transport services to travel away from the community, generally by air. If they leave the Community to travel south to Cairns the cost of using a 4 wheel drive vehicle at 56¢/km is more expensive than airfares. Such travel would only be economical where the trip can be shared with other people. Therefore the personal travel by Aboriginal people is generally limited to travel within the community. There are no details of how much travel there is between communities. Public transport services by road for travel within the communities and between communities do not exist except for taxis listed in Section 4.4.4.

Generally the communities are undertaking their own studies into future use of Aboriginal lands. Once these studies are completed it is likely that the reports will be released to Government as a statement of what the communities wish to do on their own lands. The missing details may come from some of these studies.

"Regional Opportunities Identification Study Major Projects Cape York 1992" states that the major source of supply is Cairns with coastal communities using barge supplies. Non-coastal communities rely on road transport.

#### 6.2.7 Respondents generally

The following general comments in respect to transport services and infrastructure contained in the Values, Needs and Aspirations Study Report are relevant.

The majority of respondents stated that roads and transport services were important to have a good quality of life. Aboriginal and Torres Strait Islander (ASTI) respondents placed high importance on access to other communities. Poor quality of roads restricted access in the wet season and incurred high vehicle maintenance costs as well as the high capital cost of purchasing vehicles to suit the conditions. There is a mixed response as to whether roads should be gravelled and graded more frequently, or bitumen sealed. Improved roads were seen as a threat to the existing life style of Cape York Peninsula as the improved access for visitors to the region would put pressure on eco-systems. Access to services and other communities was seen to be restricted by poor roads and high transportation costs.

There were suggestions for improved public transport facilities, especially buses. Airfares were considered to be prohibitively high for remote area dwellers. Improved ferry services to Horn Island were seen as necessary, however, due to the high cost the improvement should be financially subsidised by Government. The need for improved seaworthy vessels and better moorings for private vessels e.g., dinghies, was raised.

## 7.0 MINIMUM ACCESS STANDARDS

### 7.1 Government policy

#### 7.1.1 Rural communities policy package

The Queensland Government has initiated the Rural Communities Policy Package 1994.

The five (5) Principles behind the Rural Communities Policy Package are summarised as follows:

- The Government will consult with the rural communities on relevant decisions which affect them.
- The Government will initiate new and innovative methods of service delivery and take into account the particular needs and circumstances of rural communities.
- While the Queensland Government will continue to set policy directions for the State, rural communities will have the capacity to take responsibility for their own future and make decisions on the options available.
- All policies which are developed and implemented in Queensland will consider the social and economic importance of rural communities.
- The Government will coordinate its activities in rural communities to achieve an efficient combination of local services.

The Rural Living Infrastructure Program provides grants for communities facing geographical isolation, climatic extremes and financial disadvantage.

The program will fund a variety of projects including:

- recreational, cultural and community services;
- local capital works programs;
- water supply schemes.

\$ 40 Million has been committed over three (3) years state wide. The funds which would be allocated to transport in Cape York from this package are expected to be minimal.

#### 7.1.2 Queensland Transport Road Network Strategy

Queensland Transport has released its Road Network Strategy. The Key Objectives of the Strategy which relate to roads in Cape York Peninsula are summarised as follows:

- *To focus infrastructure investment towards supporting development of established and emerging industries.*

*Availability and cost of access for new and developing industries can have an impact on their viability. Strategies will ensure that road investment meets requirements and that the development of new industries is fully supported where economically viable.*

- ***To minimise the impact on demand from imperfect road pricing.***

*Road infrastructure will not be economically efficient unless the demand for roads reflects the true cost of providing and maintaining road infrastructure. Where social justice principles dictate that this cannot occur, the economic trade offs will be highlighted.*

*The key indicator will be the relationship between the level of road use and cost of supply.*

- ***To foster internationally competitive industries.***

*Earnings from export industries and import competitive industries including tourism are important to Queensland and Australia.*

*Consistent with broader objectives and strategies for economic development, infrastructure improvements will be provided where transport savings will lead to worthwhile improvements in the competitiveness of Australian industry in overseas markets. This objective also pertains to the tourism industry which contributes to foreign earnings.*

*The strategy is to target infrastructure investment to provide the quality of service required by export producing and import competing industries.*

- ***To assist all regions to realise their development potential.***

*Identify and support road infrastructure needs of economically viable industry development in all regions.*

- ***To incorporate Government's social justice principles in providing road infrastructure.***

*The principles of social justice which apply to Government decision making are equity, access, participation and rights. Achieving the Government's social objectives may require provision of assistance to those in our community who are disadvantaged through age, location, disability or income.*

*Stability for rural communities can be adversely affected by sudden variations in funding leading to local changes on employment levels within the road industry. It is important that such adverse impacts are identified and ameliorated where possible. At the same time, where investment for this purpose is not economically warranted, the economic trade-offs will be identified to Government.*

*Access to essential services (including health and education) to employment opportunities and recreational facilities must be considered. In practice, the translation of minimum access into the provision of road infrastructure will depend upon geographic location, population density and a number of other factors. Appropriate access to essential services will be considered in the total transport context and hence may be satisfied by the provision of all-weather road access to sealed airstrips. It is important to note that in the majority of cases, access requirements will be more than met through investment under the economic, trade and regional development areas.*

*Queensland Transport will continue to consult with all sectors of the community in a manner which will enable them to influence the provision of road infrastructure.*

The strategies are to:

- (i) Foster a "whole of Government view" to the provision of essential services.
- (ii) Identify Government investments which are not economically warranted but which are necessary to maintain stability of small rural communities.
- (iii) Identify and ensure the provision of at least minimum access requirements.
- (iv) Consult with both users and non-users regarding the provision of current and planned road infrastructure.

The Road Network Strategy identifies the categories of projects which will be funded by Government. Levels of funding which will be made available by Government to undertake the appropriate works has not been addressed by the Road Network Strategy. Therefore whilst road infrastructure projects in Cape York Peninsula may fulfil the criteria of the Road Network Strategy key objectives, the levels of funding available will be the main determinate as to which projects proceed.

### 7.1.3 Transport Infrastructure Development Subsidy

The *Transport Infrastructure Development Subsidy (TIDS)* administered by Queensland Transport is a mechanism to assist the regional and social development of Queensland by providing financial assistance to worthwhile projects on Local Authority controlled networks.

The goal of TIDS is to contribute to the provision of an integrated and safe transport system by influencing and assisting Councils in effective planning and efficient management of road infrastructure which will:

- assist economic trade and regional development of Queensland in accordance with Government Policy;
- continue to support the enhancement of economic capacity and assist social cohesion through accessibility consistent with sound environment policies and thereby improve the standard of living and quality of life of the people of Queensland.

The three target areas of TIDS are:

- **Regional Development**

The strategy places special emphasis on identifying and supporting the development of Queensland's widely dispersed resources. Regional Development is aimed at ensuring that every region has the opportunity to realise its potential. Investment on this basis can often contribute to the role of the road network in bringing people together, particularly in isolated and regional areas.

This target area strategy is to:

- Support the road infrastructure needs of economically viable industry development in all regions;
- Ensure the special freight transport needs of rural and remote areas are recognised.

- **Traffic Safety**

Safety projects would include those which improve traffic management and are pro active in reducing the road toll.

- **Social Justice**

The strategy will provide assistance to projects that improve transport efficiency in communities which suffer due to a lack of reasonable access to the State controlled road network. Roads provide essential access to a wide range of important services such as health and education and facilitate social activities and interaction. Aboriginal and Torres Strait Island (ATSI) communities generally meet the above requirements concerning lack of access.

The strategy also recognises that assistance to ATSI communities may assist health and quality of life. Projects such as sealing community roads and associated works would meet this criteria.

This target area strategy is:

- influence provision of at least minimum access requirements to cater for essential services;
- to provide assistance which will enhance the health and quality of life of remote ATSI communities;
- influence the provision of equitable environmental quality for those affected by road transport operations.

Further to TIDS, Queensland Transport provides assistance to remote ATSI communities in the form of technical expertise, personnel, plant and equipment. The works carried out on behalf of the communities are funded by the communities from TIDS and other grants.

#### 7.1.4 Local Government Grants Commission

The Local Government Grants Commission distributes funds from the Commonwealth Government to Local Authorities. In the allocation of funds the Commission takes into account the cost to each Council of providing a standard service to its rate payers. These costs take into account local cost indices between centres i.e., building costs at Aurukun compared with building costs in Brisbane. One of the cost factors which is taken into account is where a Council has to provide access through its area to a community outside the Council area. The grant allocation is *effort neutral*, i.e., the Council receives the same grant regardless of the Council's actual expenditure on such works. The grant level is such that the Cook Shire Council cannot make any improvements to such roads which provide access to Communities outside its boundaries.

#### 7.1.5 Commonwealth Government Northern Australia Social Justice Strategy

The Office of Northern Development Commonwealth Government has prepared a report "Towards the Development of a Northern Australia Social Justice Strategy". Northern Australia is defined as that part of the Australian continent north of latitude 26. This is basically north of a line extending from Maryborough to the Queensland/South Australia border, Northern Territory/South Australia border to south of Carnarvon in Western Australia.

The issues which arose from the consultations and workshops conducted as part of that study are similar to the issues set out in this report. The strategies which arose out of the consultation process are summarised as follows:

- Community service obligations should be introduced into airline policies. With deregulation, remote northern air services have declined. This would enable upgrading of air links which have been downgraded. Specifically upgrading the services operating in Cape York.
- That road funding to Aboriginal settlements be addressed as an urgent issue of social justice.
- That the funding for rural and remote roads be increased and the employment of local people in road gangs be a considered aspect of road funding considerations.
- That there be equalisation of fuel costs across Australia.
- That a review of Australia Posts' Community Service Obligations be undertaken.

The recommendations from the report which specifically relate to providing transport services and infrastructure.

- *"That the Commonwealth Government acknowledges the potential inequities that arise in service provision in remote areas from over reliance on per capita based funding formulae and agrees that departments will ensure such funding arrangements will in future take into account increased costs associated with service delivery in these areas".*
- *That the Commonwealth Government reaffirm its commitment to the principles of fiscal equalisation and recognises the need to ensure that appropriate compensatory arrangements are negotiated in the event of substantial deletion of locational factors affecting North Australia.*
- *That the Commonwealth Government investigate the establishment of negotiated minimum service and infrastructure standards for remote locations where current funding or quality control criteria prevent the establishment of required services.*

## **7.2 Social justice criteria**

From the policies of the Queensland and Commonwealth Governments, both governments recognise that people living in remote communities do not have the same standards of access and equal access to services as do residents of more densely populated areas. It is also recognised that the cost of providing residents with a minimum standard of access and equal access to services is more expensive for remote residents. In many cases the cost of providing the service is high for the size of the population benefiting from the service. Therefore, the criteria for funding projects in respect of economic benefit/cost would not be satisfied.

The services are provided to residents of remote areas on the basis of social justice.

Social Justice Criteria cannot however, solve the dilemma of governments on the amount of money to be provided to social justice projects. The matters to be resolved when formulating Government policy are:

- (a) What is a reasonable time frame to have all town roads sealed.
- (b) What is a reasonable time frame in which all towns should have all year access to port and air facilities.
- (c) What is a reasonable frequency of public transport services to remote residents.
- (d) What is an affordable cost of travel to residents of remote areas.
- (e) Is the cost of subsidising transport services to make the cost affordable to residents less than providing high cost infrastructure so as residents can travel at a lesser cost by private motor vehicle.

It is likely that to arrive to the answers to these matters, the available funds for transport to all levels of government will have to be considered. A number of iterations of the process will be required to arrive at an achievable policy.

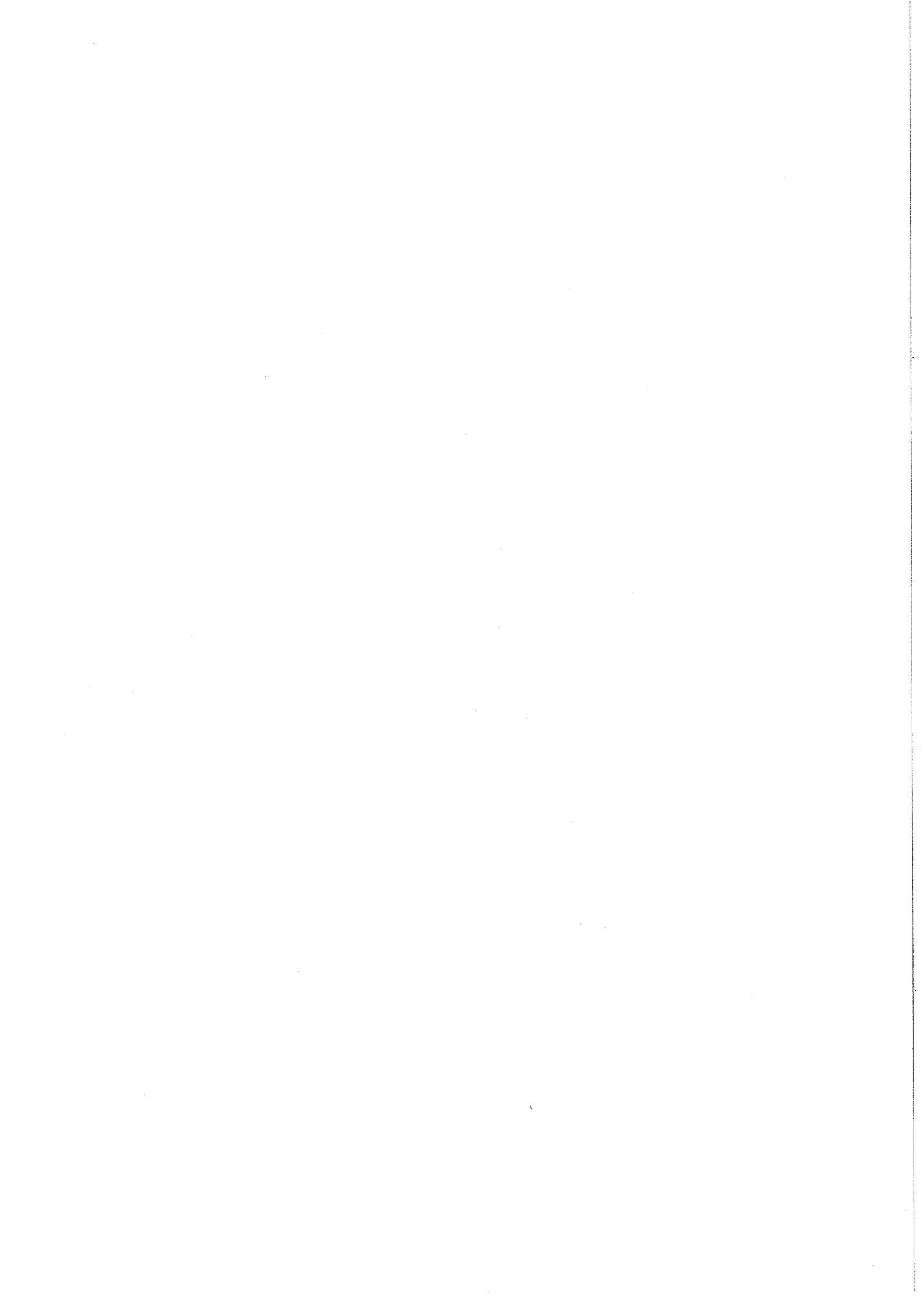
### 7.3 Minimum Access Standards

The Queensland and Minimum Commonwealth Governments' objective is that all residents have equal access to Government services and a minimum standard of services provided. The following items could be considered to be Minimum Standards.

- All roads in residential areas in towns and communities should be to a bitumen seal standard to maintain a minimum standard of living and amenity to those residents.
- All towns and communities should have all year access to essential services via one or a combination of modes of transport.
- The cost of transport to essential services must be affordable to residents. The affordability of this access is a major matter to people in remote communities as the following services are not available in the communities:
  - *Dental services.*
  - *Legal services except Legal Aid.* A defendant in Court actions has to provide their own means of transport unless they are in custody.
  - *Tax advice.* The Australian tax laws are complex and the services of a Tax Agent are required by many people.
  - *Non emergent medical treatment.* Unless the medical treatment is of an emergency the cost of travel to the centre is borne by the resident. Even in the event of emergency medical treatment, any friends or relatives who accompany the patient have to pay their own travel and accommodation costs.
- All residents have equal access to mail services.

The only opportunity to effect improvements on the access roads to the Communities is from TIDS grants to the Communities.

The area in which Government provides transport services is in the form of subsidised school bus and ferry services. These have been described in Section 4.4.



## 8.0 FUNDING

### 8.1 Funding requirements

Budget estimates for upgrading infrastructure have been determined as follows:

- **Roads**
  - Upgrading to two (2) lane bitumen seal standard with  $Q_{50}^1$  flood immunity \$ 443 000/km
  - Gravel formation<sup>2</sup> \$ 82 500/km
  - Bridging \$ 1.08 M/bridge

These costs are taken from "*Peninsula Developmental Road Infrastructure Study Strategic Directions*" and escalated by the Queensland Transport Roadworks Input Cost Index to 1994.

(<sup>1</sup>  $Q_{50}$  flood immunity is that on average the road will be overtopped by rainfall runoff once every 50 years.)

(<sup>2</sup> Gravel formation standard - No seal, local selected material is used as a running material and requires resheeting, as discussed in Section 8.2. High level bridging will only occur at major river/streams. Approximately 10% of other waterways will be culverted. Horizontal and vertical alignments improved in the worst locations, including approaches to the high level bridging.)

- **Airports**
  - Upgrade existing runways to bitumen seal standard \$ 3.0 M

This cost is based upon GHD's estimate for upgrading Aurukun Aerodrome to take Dash 8 aircraft and bitumen seal standard.

- **Barge landings**
  - Concrete barge landing \$ 100 000

The cost of upgrading infrastructure in Cape York Peninsula are summarised as follows:

- *Major Arterial and Arterial Roads to two (2) lane Bitumen Seal Standard*

Peninsula Developmental Road	\$ 217 M
Access Roads to Aboriginal Communities	\$ 365 M
Cooktown Developmental Road	\$ <u>30 M</u>
<b>Total Cost of Improvement</b>	<b>\$ <u>612 M</u></b>

- *Alternatively major Arterial and Arterial Roads to two (2) lane Gravel Road High Level Bridges*

Peninsula Developmental Road	\$ 78 M
Access Roads to Aboriginal Communities	\$ 77 M
Cooktown Developmental Road	\$ <u>NIL</u>
<b>Total Cost of Improvement</b>	<b>\$ <u>155 M</u></b>
- *Upgrade existing aerodromes to Communities to Bitumen Seal Standard for Dash 8 aircraft without Pavement concessions* \$ 18 M
- *Upgrade roads to airports to Bitumen Sealed Standard* \$ 36 M
- *Upgrade roads to sea landings/wharf to Bitumen Seal Standard* \$ 30 M
- *Upgrade of landings* \$ 1 M

Budget construction cost estimates are contained in Appendix F.

Based upon current programs, the programmed capital expenditure on roads over the next five (5) years is estimated as follows:

- Queensland Transport on State Controlled Roads \$ 15.8
  - Transport Infrastructure Development Subsidy (TIDS) Funding \$ 7.8
  - Expenditure by Cook Shire Council \$ 0.25
- Total \$ 23 M

This estimate assumes that the current funding programmed for the current year will be available over the five year period.

At this level of funding the major arterial and arterial roads cannot be upgraded to a two (2) lane gravel standard before 2020. This will be even later given that some capital expenditure will be spent on improvements to town streets to improve residential amenity. Of the 1 476 kms to be upgraded, only 670 kms are State Controlled Roads with the remaining 786 kms being the responsibility of Shire and Aboriginal Councils. Therefore, the levels of expenditure between State Controlled Roads and Council Controlled Roads would need to be adjusted.

Similarly at this level of funding major arterial and arterial roads would not be upgraded to a two (2) lane bitumen seal standard before 2065.

The 2 000 kms of Local Roads under the control of Councils have not been included in the above estimates.

The cost of upgrading airports, access roads to airports, landings and access roads to landings is \$ 85 Million. This funding has been in the past been made by special grants to Councils.

## 8.2 Maintenance costs

The approximate cost of maintenance for roads throughout Cape York Peninsula is on average \$ 1 000/km annually. Based upon this figure the appropriate level of funding is \$ 3.5 Million exclusive of major gravel resheeting. However, in some locations, ordinary maintenance costs of major roads can be up to \$2200/km plus \$1000/km for special maintenance (including gravel resheeting). These higher costs are offset by less money being spent on local roads.

Resheeting works on unsealed roads depending upon the location of gravel pits is approximately \$ 10 000 to \$ 15 000/km. If the 1 400 km of arterial access roads were resheeted every six (6) years, i.e., 25 mm loss of gravel/annum, the annual cost of resheeting is of the order of \$ 2.5 M to \$ 3.5 M. This estimate assumes that the surfacing gravel deposits are unlimited which is not the case. Once areas are depleted of gravel sources the cost of resheeting will quickly escalate.

If the local roads are resheeted every 10 years the annual cost of resheeting works is \$ 2.0 M to \$ 3.0 M.

Similarly if all arterial roads were bitumen sealed, resealing approximately every seven (7) years would be required. The annual cost of resealing 7.5 m wide at \$ 2.50 per square metre is \$ 5.0 M. Because the quantities of aggregates used for resealing are approximately 60 m<sup>3</sup>/km compared to 550 m<sup>3</sup>/km for gravel resheeting, it is likely that these sources will be available in the long term albeit that very long haulage distances will be involved.

The funding available to the Cook Shire Council for maintenance is approximately \$ 500 000 - \$ 600 000 per year which is upon average less than \$ 200/km. This level of funding allows for a grader to travel over all roads each year without putting the blade down. To overcome this deficiency, only 30% of the road length is maintained on an annual basis. A further 40% is maintained on a biennial or triennial basis. 30% of roads controlled by the Cook Shire Council are not maintained at all. The road to Bamaga north of the Wenlock River is maintained by Queensland Transport's Remote Communities gang using TIDS monies.

Part of the burden for maintenance of roads is borne by pastoralists who grade the road from their property to the major road to keep the road trafficable and provide access for stock hauliers.

The expenditure by Queensland Transport on maintenance is \$ 2.0 M per annum inclusive of major resheeting works. The expenditure allows for three gradings of State Controlled Roads per year and a resheeting program which will meet the majority of the resheeting needs. However, as there are other maintenance works other than grading and resheeting works, such as, signs, culvert repairs, attention to bad dust holes etc., the funding allocated to maintenance does not match the total needs.

### 8.3 Funding options

The sources of funding for infrastructure works are:

- (a) Government funding and Government Grants. This source of funding will only be provided where there is an economic benefit which will justify the expenditure or be provided on the basis of social justice.
- (b) Industry contributions to infrastructure on the proportion that industry benefits from the provision of the infrastructure. Generally the amount of funding required would be outside the industries capacity to pay. However, if new directions are investigated, i.e., live beef exports through Weipa and the overall cost of providing infrastructure is reduced, then there may be some ability for industry to contribute.
- (c) Queensland Treasury guidelines whereby the Private Sector can become a participant in the provision of infrastructure are contained in "Private Sector Involvement in Infrastructure Development in Queensland. Private investment such as Build, Own, Operate and Transfer (BOOT) schemes is where private industry provides the infrastructure and recovers monies from the users to pay for the investment and maintenance costs. At the end of an agreed period the controlling authority i.e., Government Department or Council, purchases the infrastructure from the original provider. Owing to the low level of demand for infrastructure in Cape York, the financial capacity of the users to pay, i.e., residents of Aboriginal Communities, and the high cost of providing the infrastructure, private investment is unlikely. Ultimately Government or Council will have to pay for the infrastructure and take on the responsibility for ongoing maintenance.

## **9.0 IDENTIFICATION OF POTENTIAL ENVIRONMENTAL IMPACTS**

### **9.1 Wilderness Values**

A report on *"Wilderness Quality on Cape York Peninsula"* has been prepared on behalf of the Australian Heritage Commission. This report states in respect to Cape York Peninsula, *"Settlement and access controls on the distribution of wilderness quality are limited and biophysical processes do not appear to have been affected much since European occupation. Instances where the effect of development has been irreversible are localised and few"*.

Wilderness indicators established are as follows:

- *Remoteness from Settlement.* The weighting is based upon the number of persons in the settled areas.
- *Remoteness from Access.* The weighting is based upon the standard of road provided. Different weighting is assigned to two (2) lane sealed roads from unconstructed wheel tracks.
- *Aesthetic Naturalness.* This weighting is based upon the impact of manmade features such as buildings, yards, bridges, fence lines, etc.
- *Biophysical Naturalness.* This indicator has not been used in the assessment of Cape York Peninsula as the measures are unreliable.

Based upon the wilderness criteria, the areas of low wilderness are adjacent to the existing settlements, roads and mining areas. By definition the establishment of any new transport infrastructure or major upgrading of existing infrastructure will have an impact on wilderness quality. However, by strict definition, the effect of any new transport corridors on wilderness values may be partially offset by abandonment of the existing corridor or significantly down grading its use.

### **9.2 National Parks and Forests**

Roads established in Cape York Peninsula will have an impact on the environment not only because of the roadworks themselves but also indirectly through the activities of people who will use these roads.

A positive benefit to visitors of sealing roads in wilderness areas would be the improvement in visual amenity by eliminating dust plumes and increasing passenger comfort by reducing road roughness. Safety will also be improved in areas of narrow or winding alignment.

The specific road impacts are summarised as follows:

- Rainforest areas are very sensitive to being opened up due to the climatic changes which occur within the road corridor. The loss of the canopy has a significant effect. Grass verges of the road are a fire hazard.
- Erosion of areas subject to traffic as well as some siltation of watercourses due to loose materials being washed off the road during the wet season. Roadside and surface erosion can be eliminated by construction of bitumen seal and stable drainage lines.
- The disturbance of the ground and the existing vegetation introduces the growth of other species, i.e., grader grass which grows along the verges of the road. This grass is hardy, difficult to eradicate and will take over areas which have been denuded by overstocking or clearing for pasture. This grass provides no nutrition for stock or wildlife.
- The establishment of road construction camps has some impact due to clearing of trees, fuel and oil spillage, sanitary waste and garbage disposal. The impact of sanitary waste and garbage disposal can be minimised by the use of environmentally conscious disposal methods.

Logic indicates that the lodgement of dust on the leaves of trees would affect the photosynthesis process. However, studies have not been able to quantify the effects of dust on plants.

The width of clearing for road construction must accommodate the road construction activities. Also removal of all solid obstructions, mainly trees whose trunk diameter is in excess of say 100 mm, within nine (9) metres of the edges of the traffic lanes is desirable for safety reasons. Only vegetation which would fall in the event of an errant vehicle leaving the road is acceptable within nine (9) metres of the edge of a 100 km/hour road.

Queensland Transport is constantly reviewing its practices and seeking new solutions in respect to vegetation adjacent to roads in all areas with a view to reducing environmental impacts.

Criticisms have been levelled at road authorities for the extent of clearing along roadways and these need to be resolved. The problem can also be exacerbated by the provision of utility services within the road reserve when the communities develop and these services are demanded. In some cases the strip of vegetation albeit narrow within a road reserve left by the road authority is completely removed by other authorities installing services.

The impacts from the use of the road are:

- Importation of plants from other areas from the movement of stock as well as seeds transported on tourist camping equipment. Rubber vine infestation has occurred in Cape York Peninsula from transport activities.

- A different fire pattern emerging as areas are made more accessible. Traditionally Aboriginal people have burned vegetation on Cape York Peninsula. The areas and frequency of burning are dictated by the ease of access. If roads are constructed to Aboriginal outstations the current burning can be expected to be more wide spread. As an example of the effect of fire, grazing activities have reduced the intensity of fires in areas and melaleuca are establishing in areas where previous fire regimes were too hot for melaleuca to survive.
- Increased fauna deaths due to higher speeds of vehicles and increased frequency of vehicles as improved roads make areas more accessible.

### 9.3 Particular Roads in National Parks

Iron Range National Park. The Portland Roads road which provides access to Portland Roads and Lockhart River Aboriginal Community passes through the Iron Range National Park. The quality and level of supervision of works on this road has created the major environmental impact within the National Park because of insufficient attention paid to compaction of bare material which has subsequently been eroded. Properly managed construction can reduce the environmental impact. There will always be some siltation as even the properly compacted surfaces abrade under traffic and the loose material washes into water courses.

Lakefield National Park. The Cook Shire Council is responsible for the maintenance of the road through the Lakefield National Park. The subsidies to Local Authorities for road construction and road maintenance have ceased. Therefore, the Cook Shire Council has to maintain the road with its own funds.

Jardine National Park. The access road to Ussher Point will be retained. It is proposed to include the Old Telegraph Road in the National Park and retain it as an adventure track for tourists who are looking for that adventure. This satisfies the wishes of 4 wheel drive clubs.

Heathlands Reserve. The Department of Environment and Heritage is the manager for this reserve. The road to Bamaga through this reserve is not gazetted and the land tenure has to be resolved. The rainforest on the top of the ridge along the Captain Billy Landing Road is sensitive. Any roadworks through this area will have to be on a reduced scale. There are some concerns with respect to safety on these roads due to poor horizontal and vertical alignments. Resolution of these concerns will have to consider the impact on rainforest areas and the effects of moving off the top of the watershed by having to construct on steep grades, and cuts and fills in sandy soils.

The Department of Transport has advised that the road follows the watershed entirely and therefore minimises the potential for runoff erosion, catchment severance, and high cuts and fills and/or steep grades. If this road is to remain as a major arterial with the potential for future upgrading to Bamaga, then reduced scale construction will not be practical or safe. The road already exhibits safety problems with its narrow and winding alignment. Avoidance of the rainforest areas may introduce more undesirable ecological impacts such as construction of steep grades, cuts and fills etc. The alternative of relocating to the old

telegraph line is likely to have even more severe impacts due to the large number of stream crossings and the steep nature of the country.

The issues for consideration highlighted by the Department are that ecological trade offs may be required for construction of any route within this area and the construction should minimise impacts while satisfying safety and alignment considerations.

#### **9.4 Other Infrastructure**

The improvement of infrastructure such as:

- roads to airports and landings
- airports
- sea ports

would generally occur close to existing townships and community centres. These areas would have a low wilderness quality because of the proximity to population centres. In many cases the basic infrastructure exists with the improvements imposing no further impact on the environment.

For the provision of new roads to airports and landings, the comments contained in Section 9.2 would apply.

The development of new ports or airports such as providing an airport for jets on Horn Island or at Bamaga may require Impact Assessment Study and/or a Environmental Impact Assessment for the particular situation.

Potential impacts for sea ports may be:

- lower water quality because of pollution from oils, garbage and other substances
- impact on marine flora and aquatic animals breeding and feeding grounds
- changes in currents due to dredging of channels construction of breakwaters etc.,
- silt washing into the waterways from construction of hardstand areas around the wharf facilities
- clearing of vegetation around the hardstand areas.

Potential impacts for airports may be:

- short term displacement of fauna due to initial aircraft noise. Once fauna know that the source of noise is of no danger to them they will return.
- Clearing of land on which to construct the aerodrome including the runway and the obstacle limitation zone.

## **10.0 CRITERIA TO BE APPLIED TO INFRASTRUCTURE STANDARDS**

From the responses from residents outlined in Section 6.2 the needs for transport infrastructure and services vary with location across Cape York Peninsula.

Aboriginal communities within the northern part of Cape York Peninsula rely upon air services for personal travel. The majority of food and household items are purchased through community stores which are supplied by a combination of road and sea freight. Road freight to the communities north of the Jardine River is limited due to the capacity of the Jardine River ferry and the conditions of the road generally.

The Kowanyama Community have no barge services available to them. Therefore, there is reliance on road freight. The road, parts of which are unformed tracks, is open subject to the wet season.

Residents of Hopevale, Cooktown and Wujal Wujal depend upon Cooktown mainly but have links with Cairns and Mareeba. Travel to the south is generally by road.

Residents south of Coen rely upon the Peninsula Developmental Road for delivery of household items and personal travel to Cairns and Mareeba/Atherton.

Pastoralists in the southern part of Cape York Peninsula rely on Cairns, Mareeba/Atherton for household items and professional services and rely upon the Peninsula Developmental Road for all freight services and personal travel. To date, there appears to be little attention to the access needs of individual pastoralists in isolated areas. In the past, pastoralists have mainly adopted their transport patterns around the conditions that prevailed and became self reliant. However, it could also be said that they have accepted a lower standard of access than other residents in remote communities.

The appropriate means of access for the remote coastal Aboriginal communities are air travel, sea freight and good standard of local roads, i.e., bitumen sealed and with a good flood immunity, between the community centres and the airports and sea landings. This would be based upon social justice criteria.

The appropriate means of access for communities who do not have access to sea freight is to improve the road access to the major centres to the south, i.e., Cairns, Mareeba and Atherton. Upgrading of roads to existing sealed airports is also appropriate as many residents do not have access to private vehicles. These projects would be satisfied under social justice criteria.

The appropriate means of access to the communities along the Peninsula Developmental Road is to improve the flood immunity of the Peninsula Developmental Road. There will be pressure to upgrade the northern end of the Peninsula Developmental road if proposed live cattle exports through Weipa eventuate. The market indications are that this will occur.

Residents of Weipa desire better road access to Cairns and Mareeba/Atherton for personal travel. However, improved road access would change the mode of freight transport to road which is currently being supplied by barge from Karumba and will affect the economic viability of existing barge services to eastern Gulf of Carpentaria communities. Based upon available funding, this transition would occur over a long period. In the interim, the existing airport and wharf facilities of Weipa will satisfy the immediate needs of Weipa residents.

Studies have been undertaken to derive costs to users due to flooding of roads. These costs look at the delays to users as well as additional costs of diverting to other routes. The Cape York community transport is geared around the total road network being impassable during the wet season, i.e., barge and air services.

The "Peninsula Developmental Road Infrastructure Study, Strategic Directions Volume 1" estimate that \$ 4.4 M annually could be saved in freight costs if all barge freight to Weipa was diverted to road freight and based upon the Peninsula Developmental Road being bitumen sealed. This figure is confirmed by the "Major Projects Cape York" September 1992 which also estimates a total annual saving in freight, livestock transport and air passengers diverted to road transport for the whole of Cape York of \$ 13 Million annually if the Peninsula Developmental Road was sealed. The \$13M saving annually assumes that all freight to Aurukun and Pormpuraaw is transported by road over unsealed roads. However, the roads to Aurukun and Pormpuraaw would be impassible in the wet season and would rely on barge services for continuity of supply. The budget cost of upgrading the Peninsula Developmental Road to a bitumen sealed standard is \$ 217 M. Along with other benefits to the road being sealed it will take approximately 17 years to obtain a return on the investment. The additional costs of servicing other communities, during the wet season e.g., Aurukun and Pormpuraaw which are serviced on the Weipa barge run from Karumba will offset some of these savings.

The Terms of Reference required that benefit/cost analysis be undertaken to assess the enhancing of flood immunity and any cost associated with upgrading the Peninsula Developmental Road. Whilst budget costs have been identified, the identification of the benefits without the data on the land use proposed for Cape York Peninsula which is the purpose of later studies of CYPLUS is impossible. Currently many improvements can only be justified on social justice grounds. This situation will require a major initiative by either Government to fund transport infrastructure on expectation of economic development or by industry to develop in the CYPLUS Area in spite of transport difficulties to change the benefit/cost ratios to warrant funding on economic justification.

There is no uniform transport need across Cape York Peninsula as each area has its own particular need. In assessing criteria for infrastructure each community has to be viewed specifically and will have to be determined generally on the options available. The minimum standard of access should be all weather access via one or more means of transport. Transport services may require subsidy to make travel affordable. Subsidised travel may have a lesser cost to Governments than providing costly alternative infrastructure.

## 11.0 CONCLUSIONS

From the study into transport services and infrastructure the following conclusions can be drawn:

- (a) Of the 3 500 km of roads in Cape York Peninsula 2 800 km is under the control of Councils. These roads are of a low standard of construction and funding in the foreseeable future will not significantly alter the status quo.
- (b) Previous studies have suggested savings in transport costs of approximately \$ 13 Million annually by sealing the Peninsula Developmental Road. With the capital cost of \$ 215 M and the annual maintenance cost of \$ 2.0 M for 570 km of bitumen sealed road there is little scope for private sector investment. Improving the Peninsula Developmental Road is a threat to the economic viability of barge services which remote coastal Aboriginal and Torres Strait Islander Councils regard as essential. Any accelerated programs to improve accesses to the Peninsula Developmental Road to an all weather road over its entire length will also have to consider the cost of maintaining less viable barge services. The upgrading of the major arterial roads should be considered on the basis of rigorous cost benefit analysis and considering the social justice, equity and industry development issues for their current and potential client base.
- (c) At the current level of funding it will take approximately 68 years to seal the Peninsula Developmental Road to Weipa.
- (d) The major industry which is sensitive to transport is the pastoral industry. This industry will overall benefit from upgrading of the Peninsula Developmental Road. However, as the necessary improvements will effectively be well into the future before being completed, the industry must look to alternative markets which reduce its transport costs. Properties remote from the Peninsula Developmental Road would not benefit from the upgrading as much as properties in close proximity due to accessibility problems in the wet season.
- (e) It could be reasonably expected that the tourism industry would benefit from improvement to transport infrastructure albeit the industry is not seeking any upgrade except for an airport at Horn Island or Bamaga to accommodate jet aircraft.
- (f) The pattern of travel is dependent upon the infrastructure available. In the southern part of Cape York Peninsula road freight and road travel to the Cairns region is used more than is the case in the northern part where sea and air travel is more widely used.
- (g) The means of travel by aboriginal people between communities needs to be investigated further. This information may be contained in the studies aboriginal communities are currently undertaking.

- (h) There are environmental impacts in improving of Transport Infrastructure. These impacts should be addressed specifically in the planning phase of each project. The extent of vegetation clearing for each project needs rationalisation.
- (i) Governments recognise that equitable funding for transport infrastructure for people residing in remote locations cannot be determined on a per capita basis across the whole of the population nor on the basis of economic return. The minimum standard of access and the time in which it is reasonable to have this standard provided are the determinants for funding.
- (j) The minimum standard of access should be all weather access via one or more means of transport. Transport services may require subsidy to make travel affordable. Subsidised travel may have a lesser cost to Governments than providing costly alternative infrastructure.

Improving infrastructure for sea and air transport and links to these modes is the more appropriate for the following areas:

- Torres Strait Islands
- The five (5) communities at Cape York
- Weipa area
- Aurukun
- Lockhart River
- Pormpuraaw

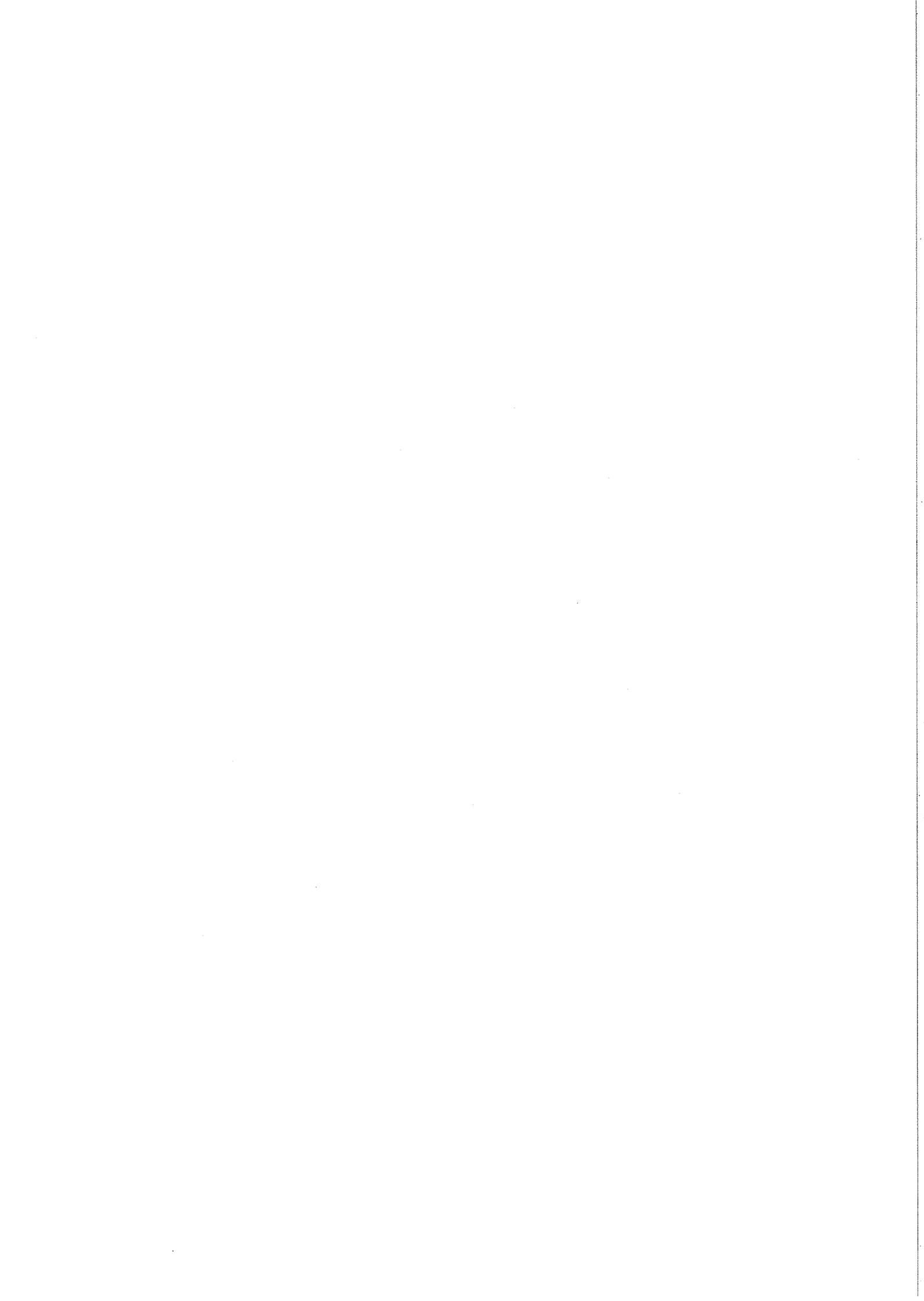
Improving major arterial and arterial roads is the more appropriate means for the following areas:

- Cooktown, Hopevale, Wujal Wujal
- Kowanyama
- Laura
- Coen

## **12.0 ISSUES FOR CYPLUS STAGE 2**

It is recommended that further stages of the CYPLUS Land Use Program investigate:

- (a) The economic potential of the pastoral industry to determine the justification for investment in transport infrastructure in accordance with the Government's guidelines.
- (b) The transport needs of residents in Aboriginal communities through the reports being prepared by the communities themselves.
- (c) The social justice criteria for access to pastoralists being on isolated properties.
- (d) More detailed costs of providing the minimum standard of access i.e., all weather access to one mode or a combination of modes of transport.
- (e) An acceptable time period in which to complete the necessary minimum standard of infrastructure.
- (f) The potential costs of the impact of infrastructure improvements on other essential transport modes e.g., improved roads jeopardising barge services which provide the only means of continuity of supply, for improvements to the Peninsula Developmental Road.
- (g) A dedicated study be undertaken into freight movements throughout Cape York Peninsula. The funding for the study would make provision for the collection of data by the industry itself.
- (h) More detailed technical investigations and analysis of other studies which focus on what land use may occur in Cape York Peninsula. This input is needed to better define the context of transport services and infrastructure.



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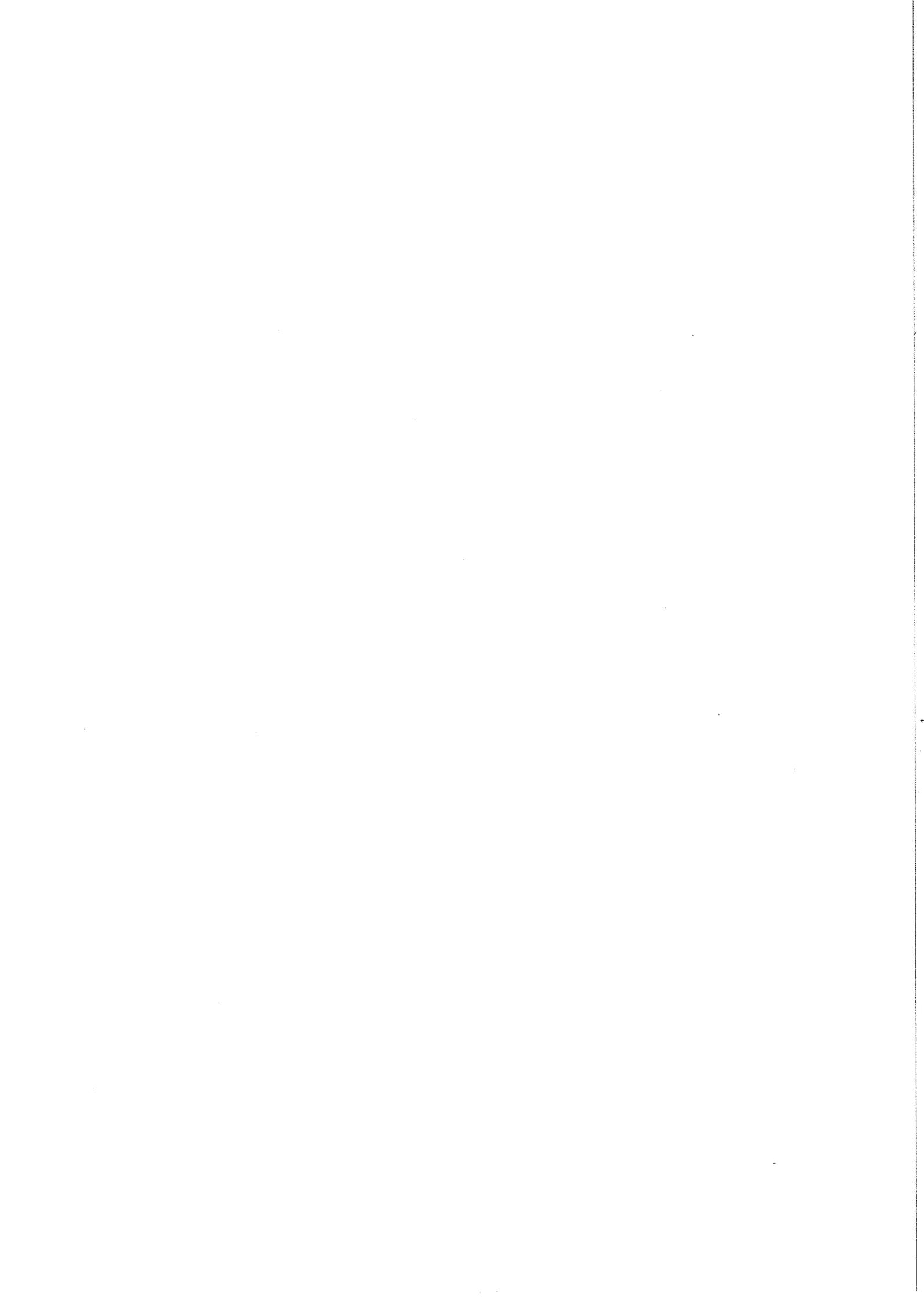
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"The Rural Communities Policy Package" 1994, Office of Rural Communities, Queensland.

"Towards the Development of a Northern Australia Social Justice Strategy" Final Report, March 1994, Office of Northern Development Darwin.

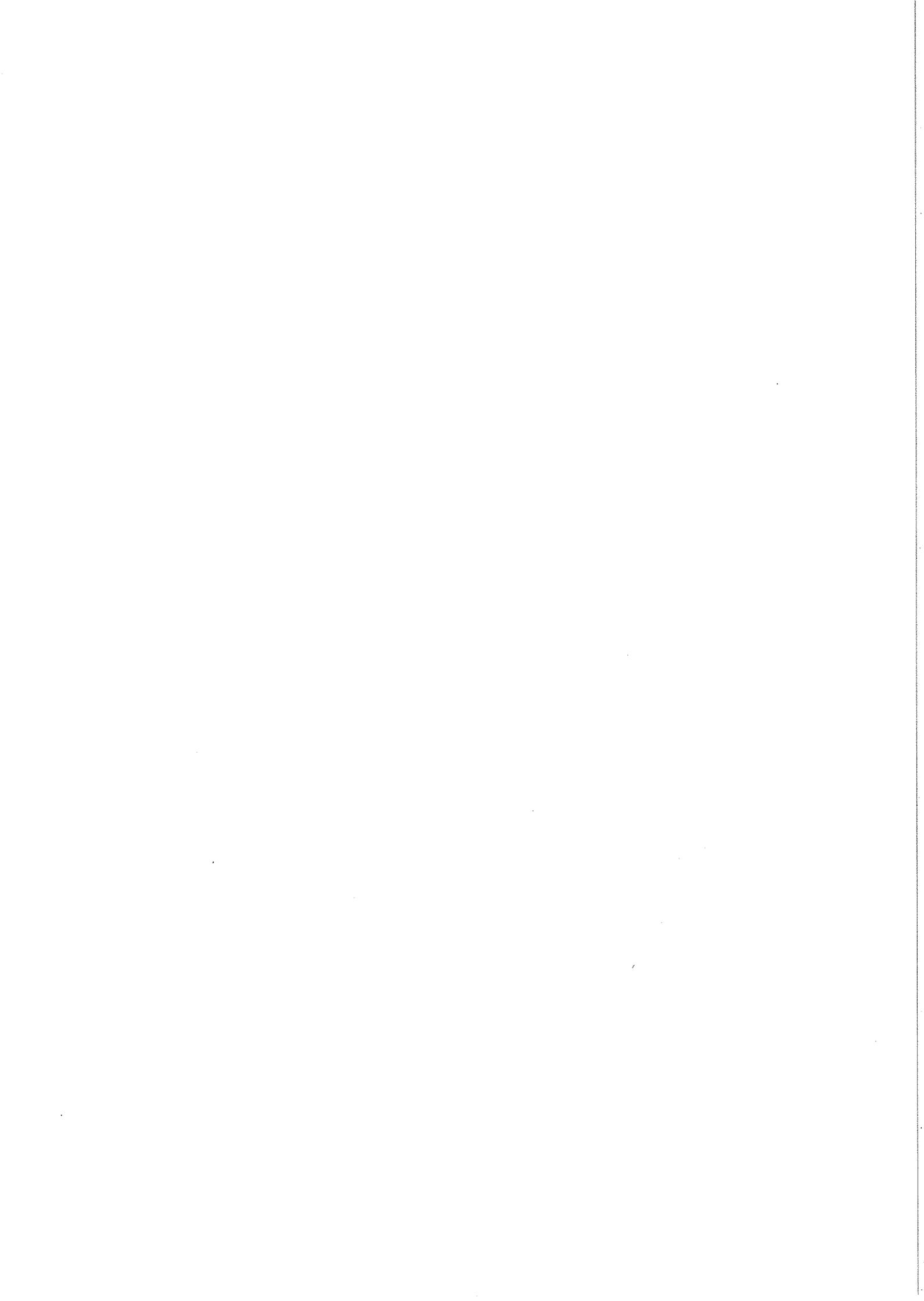
"Transport Accessibility Program, Airport Survey" October 1993.

"Transport Mobility and Development in the Aurukun Region Western Cape York Peninsula" Report to Month Thyon Association, November, 1992 Laurence.



**APPENDIX A**

**Council Questionnaire**



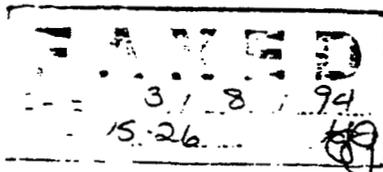
cc: The Project Officer  
Cape York Peninsula Land Use Strategy

Your ref:

Our ref: bjok:apr

3 August 1994

Hopevale Aboriginal Council  
C/- Post Office  
HOPEVALE QLD 4871



Attention: Ms June Pearson  
(Council Clerk)

Dear Madam

**CAPE YORK PENINSULA LAND USE STRATEGY  
TRANSPORT SERVICES AND INFRASTRUCTURE PROJECT**

The purpose of this letter is to formally advise the Council that Gutteridge Haskins & Davey Pty Ltd has been appointed by the CYPLUS Task Force to undertake the Transport Services and Infrastructure project.

The scope of this project is to:

- (a) provide an inventory of the transport infrastructure and the transport services which operate in Cape York Peninsula.
- (b) identify the appropriate transport modes and the criteria to be applied to the transport provision in Cape York Peninsula.
- (c) review the criteria to be used to determine standards for infrastructure in Cape York Peninsula.

The study will take into account the services available to, and the infrastructure currently owned by the Council and will be establishing the foundation for future policies and funding for upgrading these services. The Council will be kept informed as to the data collected and any proposals which may affect future policies of Government for the provision of transport throughout Cape York Peninsula.

To undertake this study we require the Council's assistance in providing relevant information e.g., freight, mail and passenger services. Any conditions of the Council in respect to publication or use of the data supplied by the Council, or provided by others which affect the Council will be strictly adhered to by GHD and CYPLUS. This is a condition of the contract between GHD and the CYPLUS Task Force.

For the first part of the Transport Services and Infrastructure Project it would be appreciated if you would complete the attached questionnaire and return by facsimile to GHD before 10 August 1994.

If you have any items you wish to be clarified please contact Mr Greg O'Brien (Phone: 070 511 422) of this office.

Yours faithfully  
GUTTERIDGE HASKINS & DAVEY

  
B J O'Keeffe

**AERODROMES**

**Hopevale Aboriginal Council**

**Local Strip Name:**

**Does the Hopevale Community use the Elderslie Mt Baird,  
Starke or Cape Flattery air strips?  
(If yes which one and for what purposes)**

**Yes / No**

.....  
.....

**Commercial Flights/Week**

Operator .....

Days .....

**Regular Charter Flights**

Operator .....

Service between ..... and .....

**Access Road to Aerodrome from Township**

Length ..... km

Construction Unformed / Formed / Gravel / Sealed *(circle which applies)*

**Trafficability**

Cut off by Flooding Yes / No *(if yes) please indicate frequency* .....

- Features
- Loose Sand .....
  - Bulldust .....
  - Melon hole .....
  - Swamp Areas .....
  - Slippery Areas .....
- (only those features which prevail need be filled in)*

**PORTS / LANDINGS**

**Hopevale Aboriginal Council**

**Construction Type**

Wharf / Concrete Barge Ramp / Natural Hardstand Area  
*(circle which applies)*

Number of Freight Services / Week: ..... No.

Company Operating Services .....

**Freight Classification**

General Goods excluding Building Materials and Fuel Yes / No

Building Materials Yes / No

Fuel Yes / No

Landing for size of barge required to meet  
the Council's needs Too small / Adequate / Can Accommodate larger barges

Are Services disrupted during Rough Weather other than Cyclones Yes / No

Can loading or unloading be accomplished Yes / No  
• on both high and low tides  
• during rough weather in open water? Yes / No

Does sand movement affect navigation to landing? Yes / No

**Access Road to Township**

Length ..... km

Construction Unformed / Formed / Gravel / Sealed *(circle which applies)*

**Trafficability**

Cut off by Flooding Yes / No *(if yes)* please indicate frequency .....

- Features
- Loose Sand .....
  - Bulldust .....
  - Melon hole .....
  - Swamp Areas .....
  - Slippery Areas .....
- (only those features which prevail need be filled in)*

Are there any potential port sites that have been considered? Yes / No

If yes please elaborate: .....  
.....  
.....

**ACCESS ROADS TO TOWNS OR OUT STATION**

**Hopevale Aboriginal Council**

**Road Name:**

**Access from Peninsula Developmental Road** Yes / No

**Access from Bamaga Road** Yes / No

**Months Road Open to traffic due to Weather Conditions** ..... to .....

**Is general freight (excluding building materials and fuel) hauled over this road?** Yes / No

**Are building materials hauled over this road?** Yes / No

**Is fuel hauled over this road?** Yes / No

**Width of Road** Single vehicle only km ..... or ..... % of length

Two vehicle width km ..... or ..... % of length

**Road Construction** Unformed / Formed / Gravel / Sealed

**Trafficability**

**Features which make the road impassable**

- **Flooding** River Creek Names .....
- **Loose Sand** km ..... or ..... % of length
- **Melon Holes** km ..... or ..... % of length
- **Swamp Areas** km ..... or ..... % of length
- **Slippery Areas** km ..... or ..... % of length

**Contact Name for any additional information:** .....

**Other Comments:** .....

.....

.....

**PRIORITY FOR ACCESS**

**Hopevale Aboriginal Council**

**Which areas of Transport have the major priority for the Council?**

*List in priority 1 to 5 (1 crucial ..... to 5 not important)*

- Improve Aerodrome (.....)
- Improve Access Road from Town to Aerodrome (.....)
- Improve Sea Landing (.....)
- Improve Access Road from Town to Sea Landing (.....)
- Improve Road Access from Regional Roads to Town (.....)

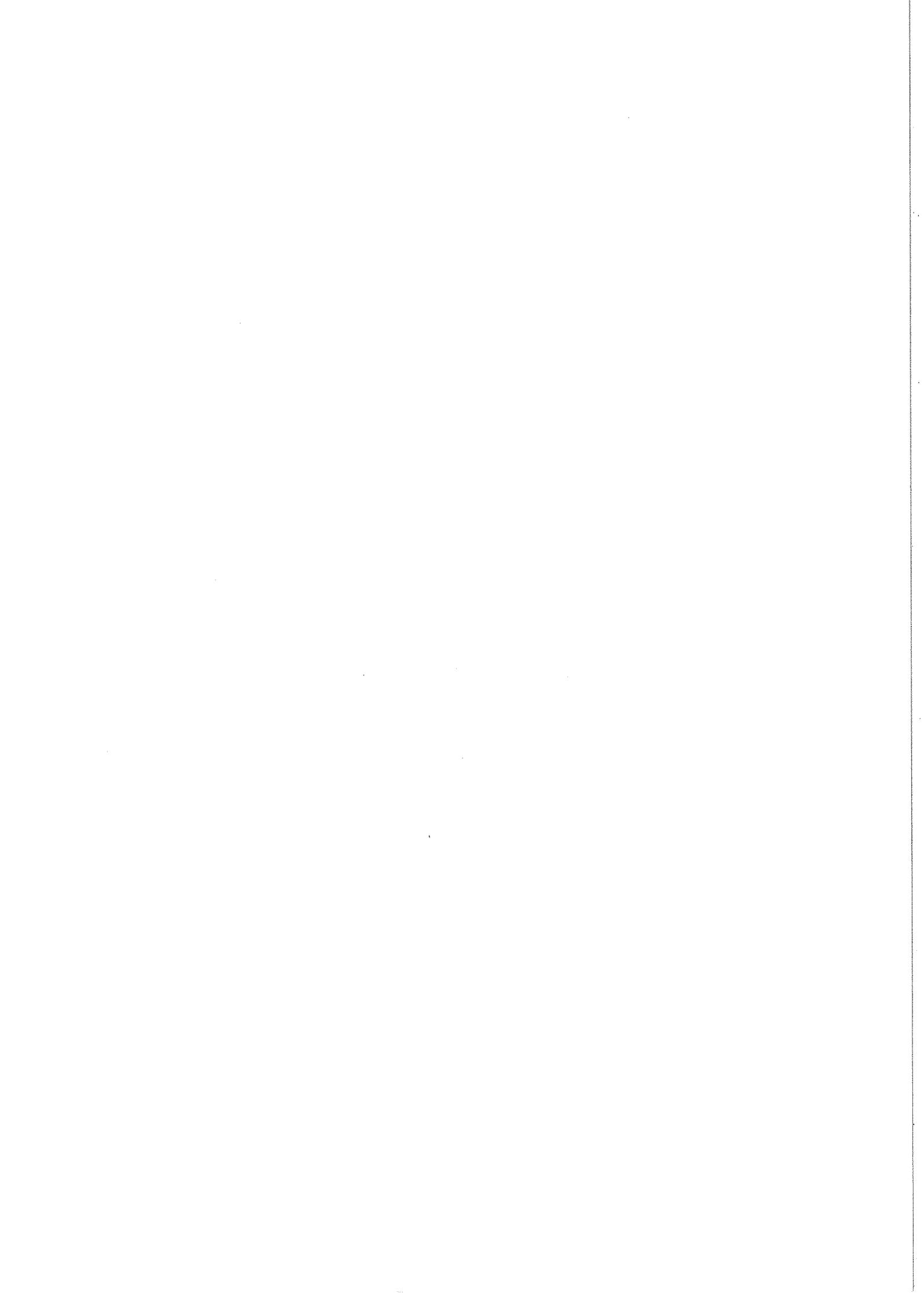
**In which areas of Transport would the Council direct its funds towards improving?**

*List in order of priority 1 to 5*

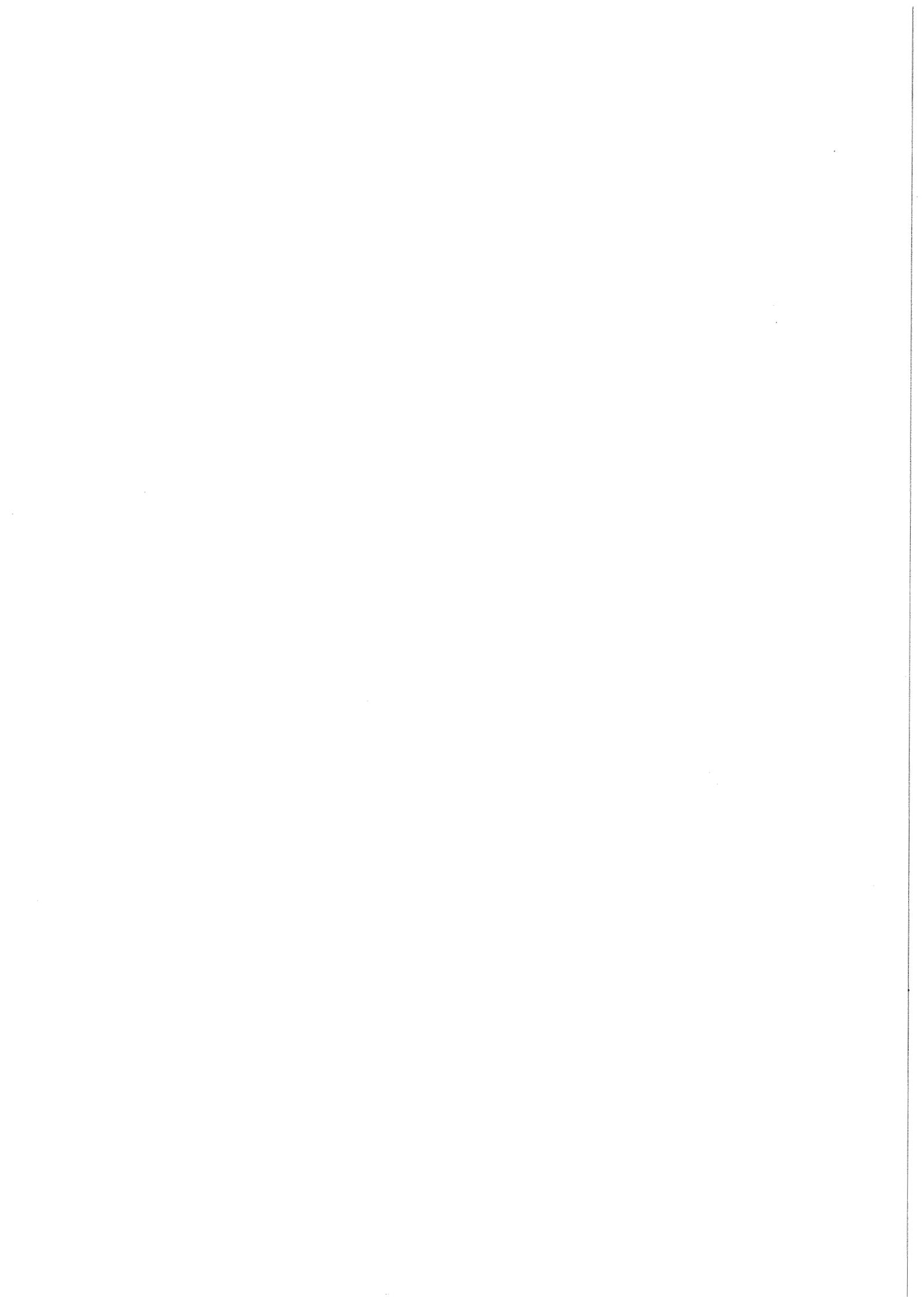
- Improve Aerodrome (.....)
- Improve Access Road from Town to Aerodrome (.....)
- Improve Sea Landing (.....)
- Improve Access Road from Town to Sea Landing (.....)
- Improve Road Access from Regional Roads to Town (.....)

**APPENDIX B**

**Transport Operators Questionnaire**



**APPENDIX B-1**  
**FREIGHT MOVEMENTS BY AIR**



cc: The Project Officer  
Cape York Peninsula Land Use Strategy

Your ref:

Our ref: gob:apr

31 August 1994

*Refer attached List*

Dear Sir

**CAPE YORK PENINSULA LAND USE STRATEGY  
TRANSPORT SERVICES AND INFRASTRUCTURE PROJECT**

The purpose of this letter is to formally advise your Company that Gutteridge Haskins & Davey Pty Ltd has been appointed by the CYPLUS Task Force to undertake a Transport Services and Infrastructure study.

The scope of this study is to:

- (a) provide an inventory of the transport infrastructure and the transport services which operate in Cape York Peninsula and the Prince of Wales Islands.
- (b) identify the appropriate transport modes and the criteria to be applied to the transport provision in Cape York Peninsula and the Prince of Wales Islands.
- (c) review the criteria to be used to determine standards for infrastructure in Cape York Peninsula and the Prince of Wales Islands.

The study will take into account the services available to, and the infrastructure (roads) currently in place and will be establishing the foundation for future policies and funding for upgrading these services.

To undertake this study we require your assistance in providing relevant information e.g., freight, road usage, mail and passenger services. Any information received will only be used to access the total freight haulage in the respective areas of the Cape York Peninsula.

The first part of the Transport Services and Infrastructure Project it would be appreciated if you would complete the attached questionnaire and return by facsimile to GHD by 6 September 1994.

If you have any items you wish to be clarified please contact Mr Greg O'Brien (Phone: 070 511 422) of this office.

Yours faithfully  
GUTTERIDGE HASKINS & DAVEY

  
B J O'Keeffe

Encl.            \* Questionnaire

**FREIGHT MOVEMENTS BY AIR**

From ..... to .....

Carrier .....

Is this a regular service/on demand: .....

Approximate tonnage/week/month/year: ..... No of flights .....

Route: Direct/Indirect (if indirect please elaborate) .....

.....

.....

General description of freight carried .....

General months of operation due to Weather Conditions ..... to .....

How does the wet season affect - increase/decrease freight movements .....

.....

.....

Features which limit road access to landing strips used:  
(Please state strip affected and any problem areas known)

.....

Contact Name of any additional Information: .....

Any general comments regarding route/problems etc., .....

**CAPE YORK PENINSULA LAND USE STRATEGY  
TRANSPORT SERVICES AND INFRASTRUCTURE PROJECT**

**LIST OF ADDRESSES**

The Manager  
TNT Air Couriers  
Cairns Airport  
AEROGLEN QLD 4870

Attention: Mr Bill Rease ♦

♦

The Manager  
Australian Air Express  
Cairns Airport  
CAIRNS QLD 4870

Attention: Mr Michael Harvey ♦

♦

The Manager  
Ansett Air Freight  
Cairns Airport  
CAIRNS QLD 4870

Attention: Mr Rob Dee ♦

♦

The Manager  
Air Swift Aviation  
Cairns Airport  
CAIRNS QLD 4875

Attention: Sally Faithful ♦

♦

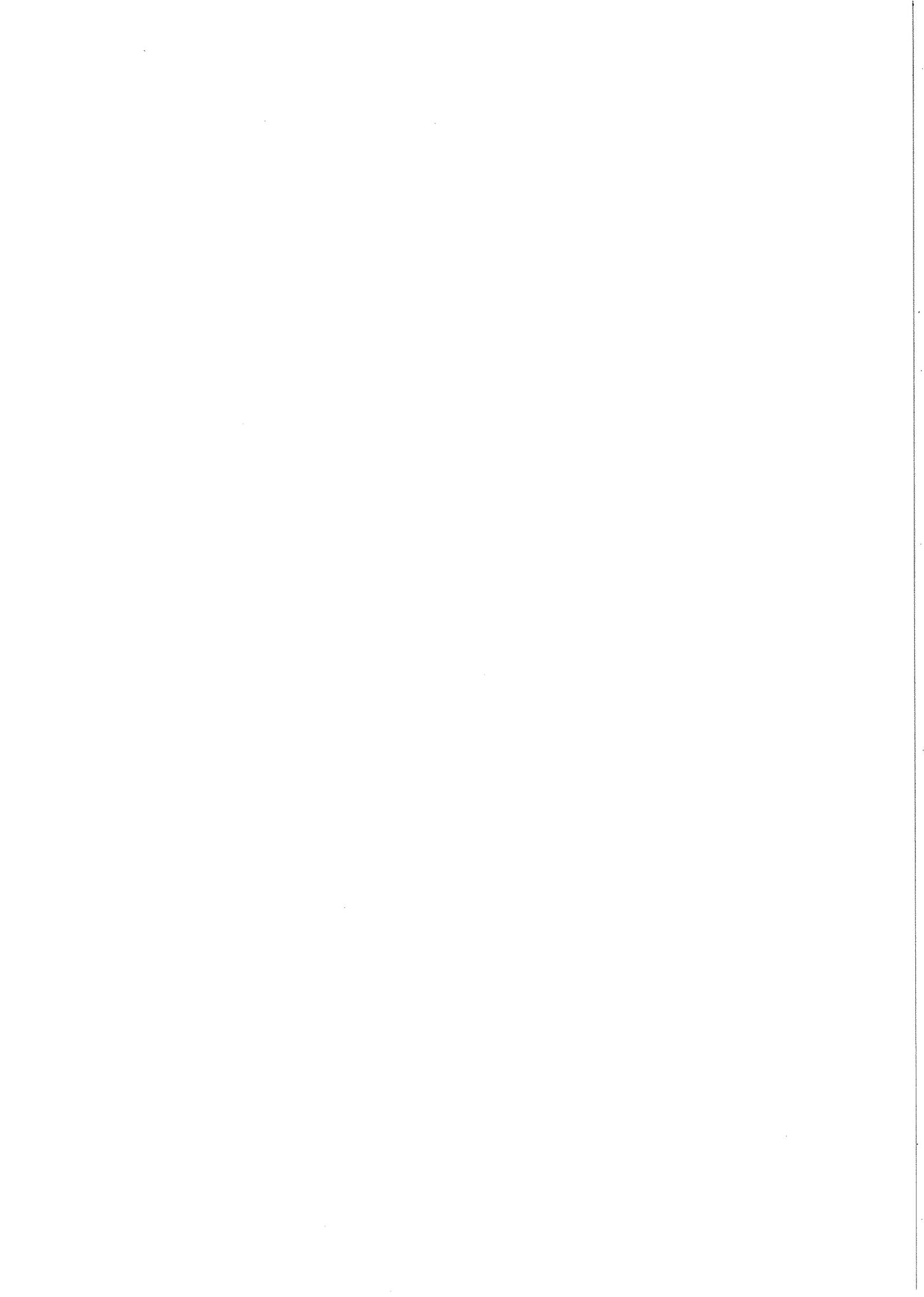
The Manager  
DC-3 Australia Pty Ltd  
Cairns Airport  
CAIRNS QLD 4870

Attention: Ms Michelle Lockington ♦

♦

**APPENDIX B-2**

**FREIGHT HAULAGE BY SEA**



cc: The Project Officer  
Cape York Peninsula Land Use Strategy

Your ref:

Our ref: gob:apr

~~TAXED~~

31 August 1994

*(Refer attached list)*

Dear Sir

**CAPE YORK PENINSULA LAND USE STRATEGY  
TRANSPORT SERVICES AND INFRASTRUCTURE PROJECT**

The purpose of this letter is to formally advise your Company that Gutteridge Haskins & Davey Pty Ltd has been appointed by the CYPLUS Task Force to undertake a Transport Services and Infrastructure study.

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The study will take into account the services available to, and the infrastructure (roads) currently in place and will be establishing the foundation for future policies and funding for upgrading these services.

To undertake this study we require your assistance in providing relevant information e.g., freight, road usage, mail and passenger services. Any information received will only be used to access the total freight haulage in the respective areas of the Cape York Peninsula.

The first part of the Transport Services and Infrastructure Project it would be appreciated if you would complete the attached questionnaire and return by facsimile to GHD by 6 September 1994.

If you have any items you wish to be clarified please contact Mr Greg O'Brien (Phone: 070 511 422) of this office.

Yours faithfully  
GUTTERIDGE HASKINS & DAVEY

*G O'Brien*  
*for* B J O'Keeffe

Encl.            \* Questionnaire (2 pages)

## Address List

Jardine Shipping  
P O Box 1867  
CAIRNS QLD 4870  
Attention: Mr Frank Markert

Sea Swift Pty Ltd  
P O Box 6755  
CAIRNS QLD 4870  
Attention: Ms Larna Kerr

Gulf Freight Services Pty Ltd  
P O Box 713  
FORTITUDE VALLEY QLD 4006  
Attention: Mr Lindsay Masters

Thuppun Barge Service  
27 Lanark Street  
KIRWAN QLD 4810  
Attention: Mr Don Haw

Wilson Engineering  
P O Box 1  
KARUMBA QLD 4891  
Attention: Mr Les Wilson

**FREIGHT HAULAGE BY SEA**

From ..... to .....

Is this a regular service/on demand: .....

Approximate tonnage/week/month/year: ..... No of trips .....

Route Used: .....  
.....  
.....

General description of freight carried .....

General months of operation due to Weather Conditions ..... to .....

Features which limit Operation (please comment)

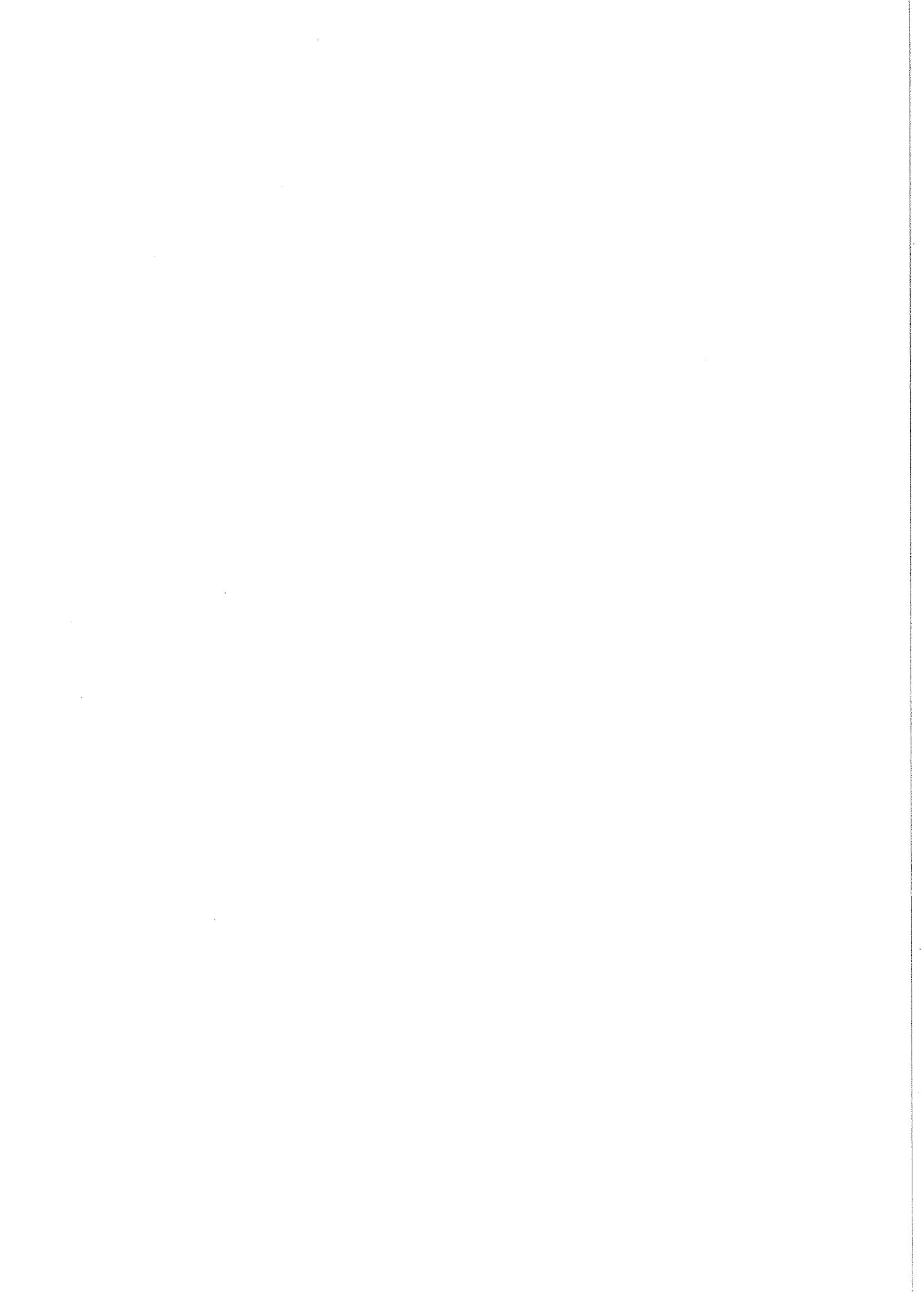
- Access to Port from Community .....
- Port facilities .....
- Port exposure .....

Contact Name of any additional Information: .....

Any general comments regarding route/problems etc., .....  
.....

**APPENDIX B-3**

**FREIGHT HAULAGE BY ROAD**



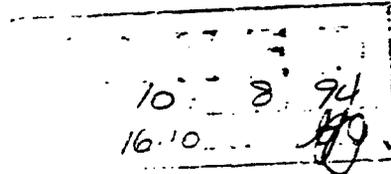
cc: The Project Officer  
Cape York Peninsula Land Use Strategy

Your ref:

Our ref: BJOKSW

10 August 1994

The Manager  
Myres Transport  
Raleigh Street  
DIMBULAH QLD 4872



Dear Sir

**CAPE YORK PENINSULA LAND USE STRATEGY  
TRANSPORT SERVICES AND INFRASTRUCTURE PROJECT**

The purpose of this letter is to formally advise your Company that Gutteridge Haskins & Davey Pty Ltd has been appointed by the CYPLUS Task Force to undertake a Transport Services and Infrastructure study.

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To undertake this study we require your assistance in providing relevant information e.g., freight, road usage, mail and passenger services. Any information received will only be used to access the total freight haulage in the respective areas of the Cape York Peninsula.

The first part of the Transport Services and Infrastructure Project it would be appreciated if you would complete the attached questionnaire and return by facsimile to GHD by 16 August 1994.

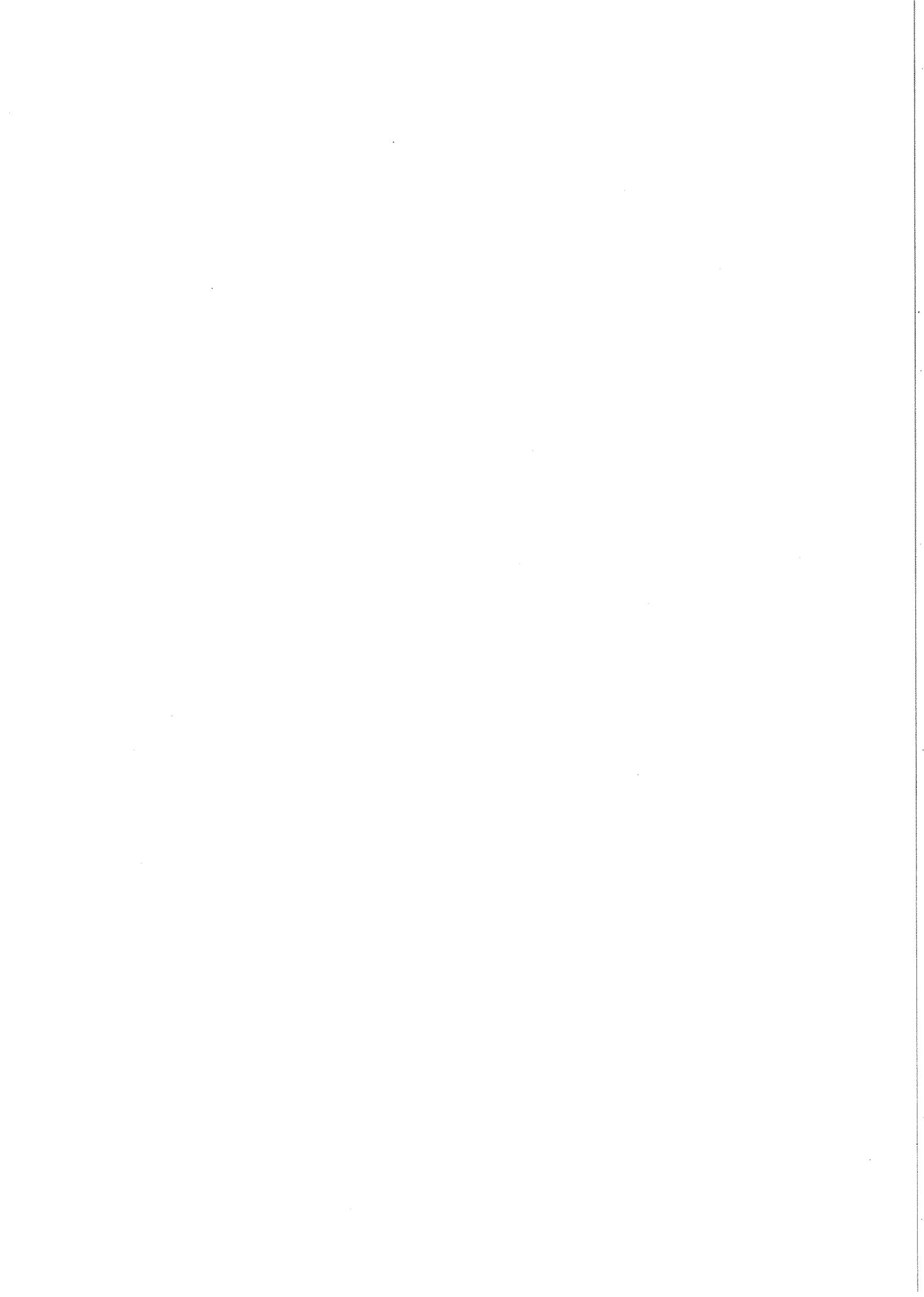
If you have any items you wish to be clarified please contact Mr Greg O'Brien (Phone: 070 511 422) of this office.

Yours faithfully  
GUTTERIDGE HASKINS & DAVEY

B J O'Keeffe

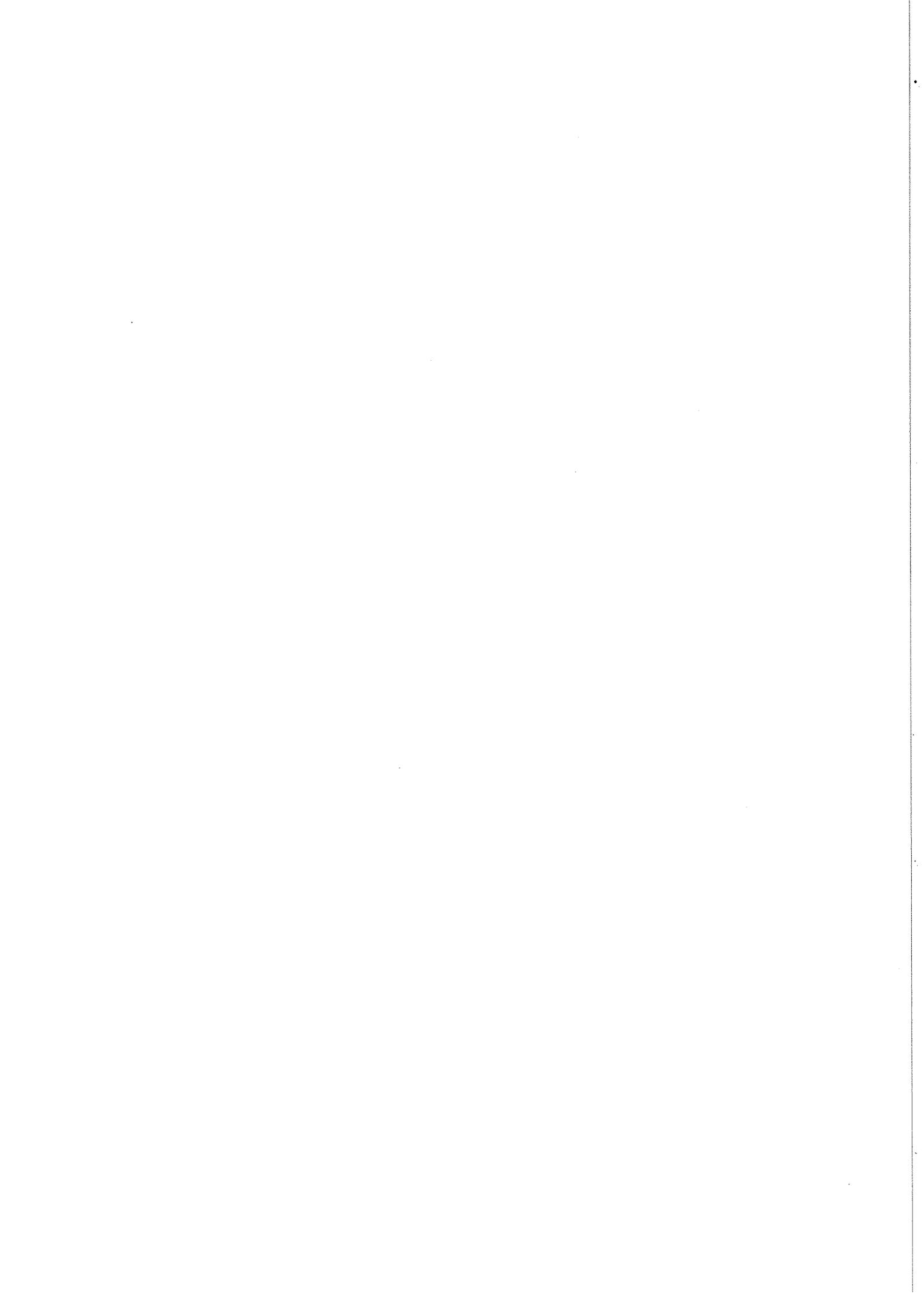
Encl.            \* Questionnaire





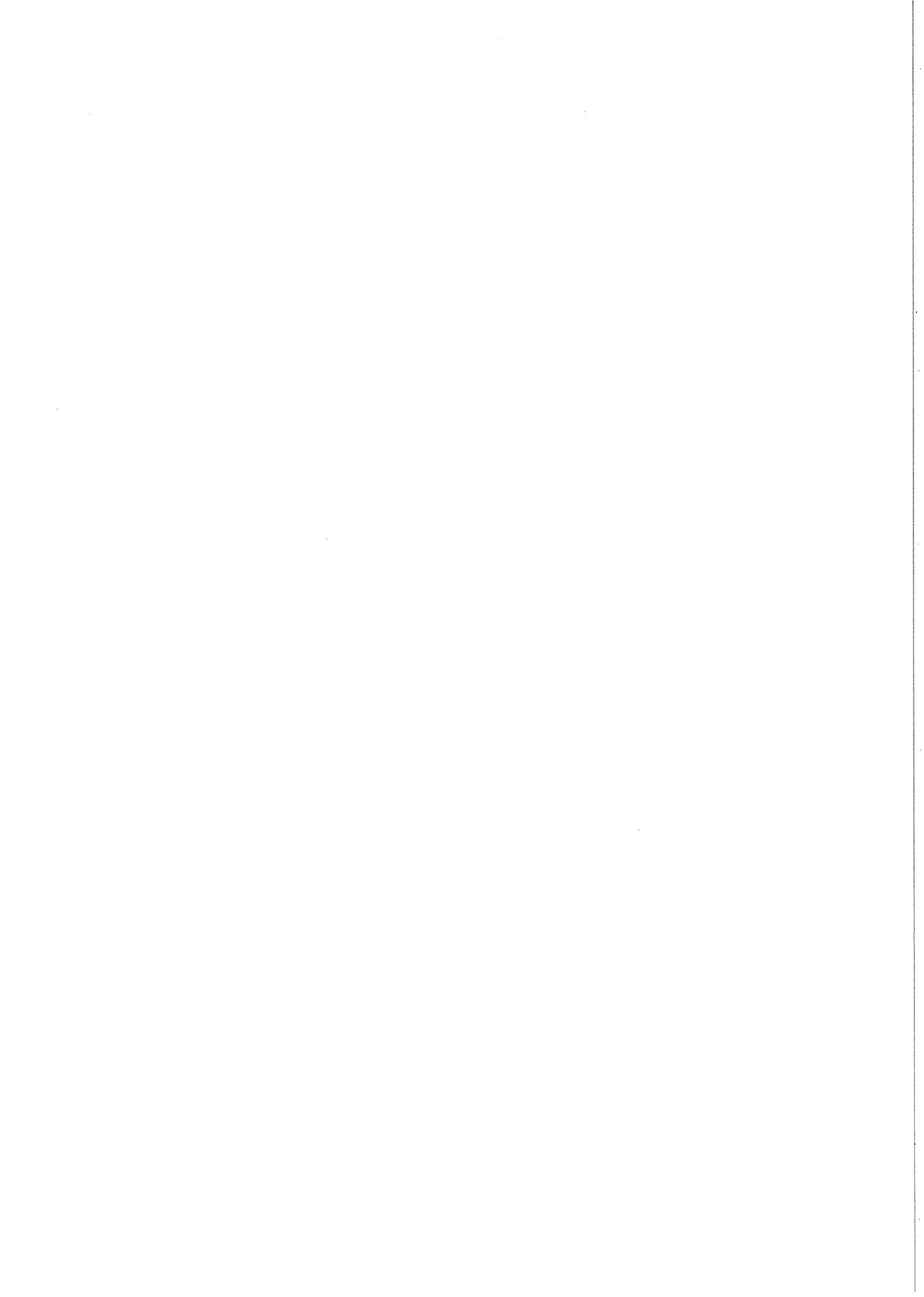
**APPENDIX C**

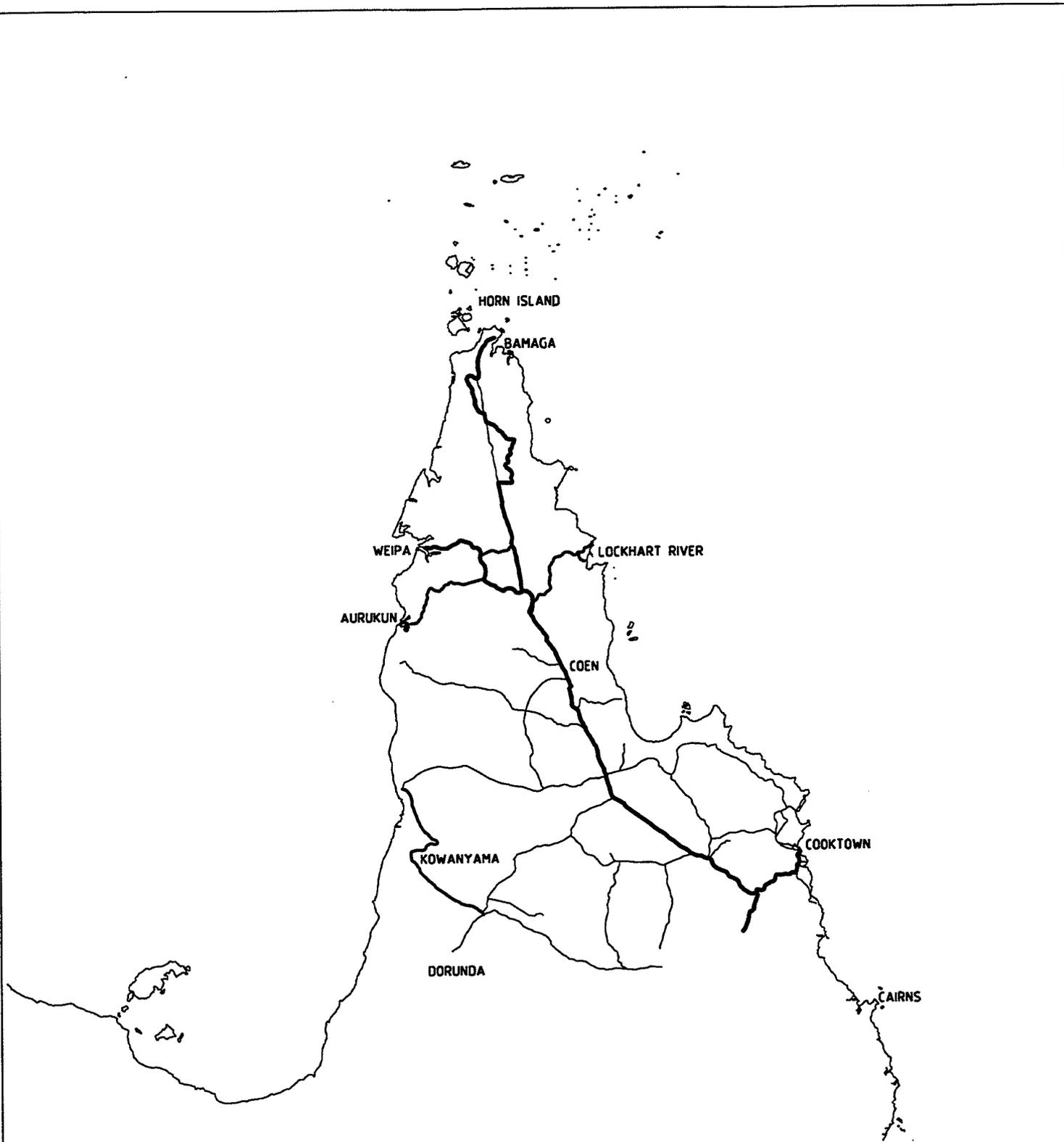
**GIS Data**



**APPENDIX C-1**

**GIS DATA ROADS**





**LEGEND**

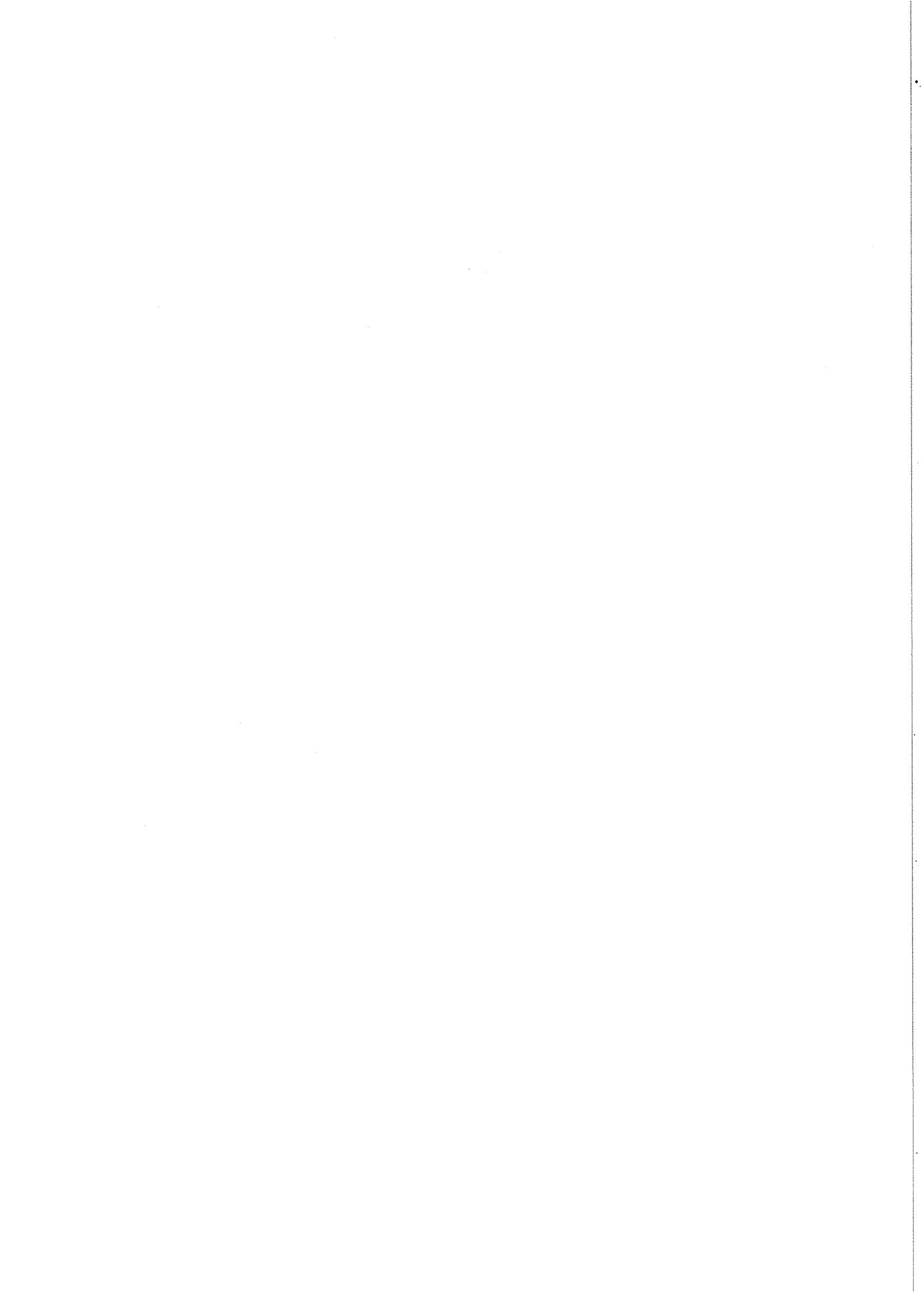
-  MAJOR ARTERIAL ROADS
-  ARTERIAL ROADS
-  LOCAL ROADS

SCALE 1 : 500000

**CYPLUS  
GIS DATA  
ROADS**



SEPT 94



DATA GROUP: ROADS2  
=====

DESCRIPTION OF DATA:  
=====

Roads are the only land transport links in Cape York Peninsula. The standard of construction varies from formed and gravelled roads to unformed single vehicle tracks. The roads in the database which have the higher degree of accuracy are those included in the Cook Shire Council Road Register and State Controlled Roads. Roads outside Cook Shire are indicative only. The data structure is lines.

CONTENT OF DATA:  
=====

NUMBER OF LAYERS: 28

LAYER NAME	SPACIAL FEATURES	DATA STRUCTURE
ID	Road Route	Char(5)
Rd_no		Char(5)
Rd_name		Char(32)
From_to		Char(49)
Main_res		Char(22)
Aadt_traf		Char(35)
Rd_leng		Float
Lg_seal		Float
Lg_grav		Float
Lg_form		Float
Lg_unfor		Float
One_veh		Smallint
Two_veh		Smallint
Con_4wd		Char(4)
Mth_open		Smallint
Use		Char(50)
Ton_frei		Smallint
Tour_rt		Char(2)
Flood_aff		Char(8)
Ck_name		Char(56)
L_sand_aff		Smallint
Mel_hole_a		Smallint
Swamp_aff		Smallint
Slip_aff		Char(7)
Data_loc		Char(22)
Data_att		Char(21)
Tour_acc		Char(4)
Features		Char(41)

RELATED FILES:  
=====

LIST AND DESCRIPTION OF SPATIAL FEATURES  
=====

Road Route - Representation of road alignment between settlements  
(not accurate)

NON SPATIAL FIELD NAME DECRPTIONS  
=====

ID - Road number (supplied by GHD)  
Rd\_no - Road number (supplied by Q.D.O.T. / Cook Shire Council)  
Rd\_name - Road name

From_to	- Townships joined
Main_res	- Responsible Authority
Aadt_traf	- Annual Average Daily Traffic
Rd_leng	- Road length
Lg_seal	- Length of sealed portion of road
Lg_grav	- Length of gravel portion of road
Lg_form	- Length of formed portion of road
Lg_unfor	- Length of unformed portion of road
One_veh	- Percent single vehicle formation width
Two_veh	- Percent dual vehicle formation width
Con_4wd	- Recommended vehicle type
Mth_open	- Months open to recommended vehicle type
Use	- Main commercial use of road
Ton_frei	- Annual freight movements
Tour_rt	- Is road part of a tourist route
Flood_aff	- Is road flood affected
Ck_name	- Creek affecting road flooding
L_sand_aff	- Length of sand affected road
Mel_hole_a	- Length of mello hole affected road
Swamp_aff	- Length of swamp affected road
Slip_aff	- Length of slip affected road
Data_loc	- Souce of spacial data
Data_att	- Source of attribute data
Tour_acc	- Is tourist attractions serviced by road
Features	- Tourist attractions serviced by road

COVERAGE - ROADS2.QAL

=====

LINEAGE

=====

Field Name	Information obtained from:
ID	- Cyplus supplied
Rd_no	- Q.D.O.T. (district 11 road map published 1/7/91)
Rd_name	- Q.D.O.T. (district 11 road map published 1/7/91)
From_to	- Q.D.O.T. (district 11 road map published 1/7/91)
Main_res	- Q.D.O.T. (district 11 road map published 1/7/91)
Addt_traf	- Queensland Transport
	- Cook Shire Council - all roads within Cook Shire 6/93>7/94
Rd_leng	- From respective council road records
Lg_seal	- From respective council road records
Lg_grav	- From respective council road records
Lg_form	- From respective council road records
Lg_unfor	- From respective council road records
One_veh	- From respective council road records
Two_veh	- From respective council road records
Con_4wd	- From respective council road records
Mth_open	- From respective council road records/Road transport operator
Use	- From respective council road records/Road transport operator
Ton_frei	- From respective council road records/Road transport operator
Tour_rt	- From respective council road records/Road transport operator
Flood_aff	- From respective council road records/Road transport operator
Ck_name	- From respective council road records/Road transport operator
L_sand_aff	- From respective council road records/Road transport operator
Mel_hole_a	- From respective council road records/Road transport operator
Swamp_aff	- From respective council road records/Road transport operator
Slip_aff	- From respective council road records/Road transport operator
Data_loc	-
Data_att	-
Tour_acc	- From respective council road records
Features	- From respective council road records

POSITIONAL ACCURACY

=====

Road ID - 9501 - Accurate road alignment input supplied by GHD Consulting Engineers

All remaining road sourced from Department of Lands (possibly digitised from R.A.C.Q. maps)

ATTRIBUTE ACCURACY

=====

Correct as of September 1994

LOGICAL CONSISTENCY

=====

The position of roads may not be consistent with DCDB boundary alignment neither of which may be accurate. Road alignments are only to be viewed as a guide to the existence of the roads.

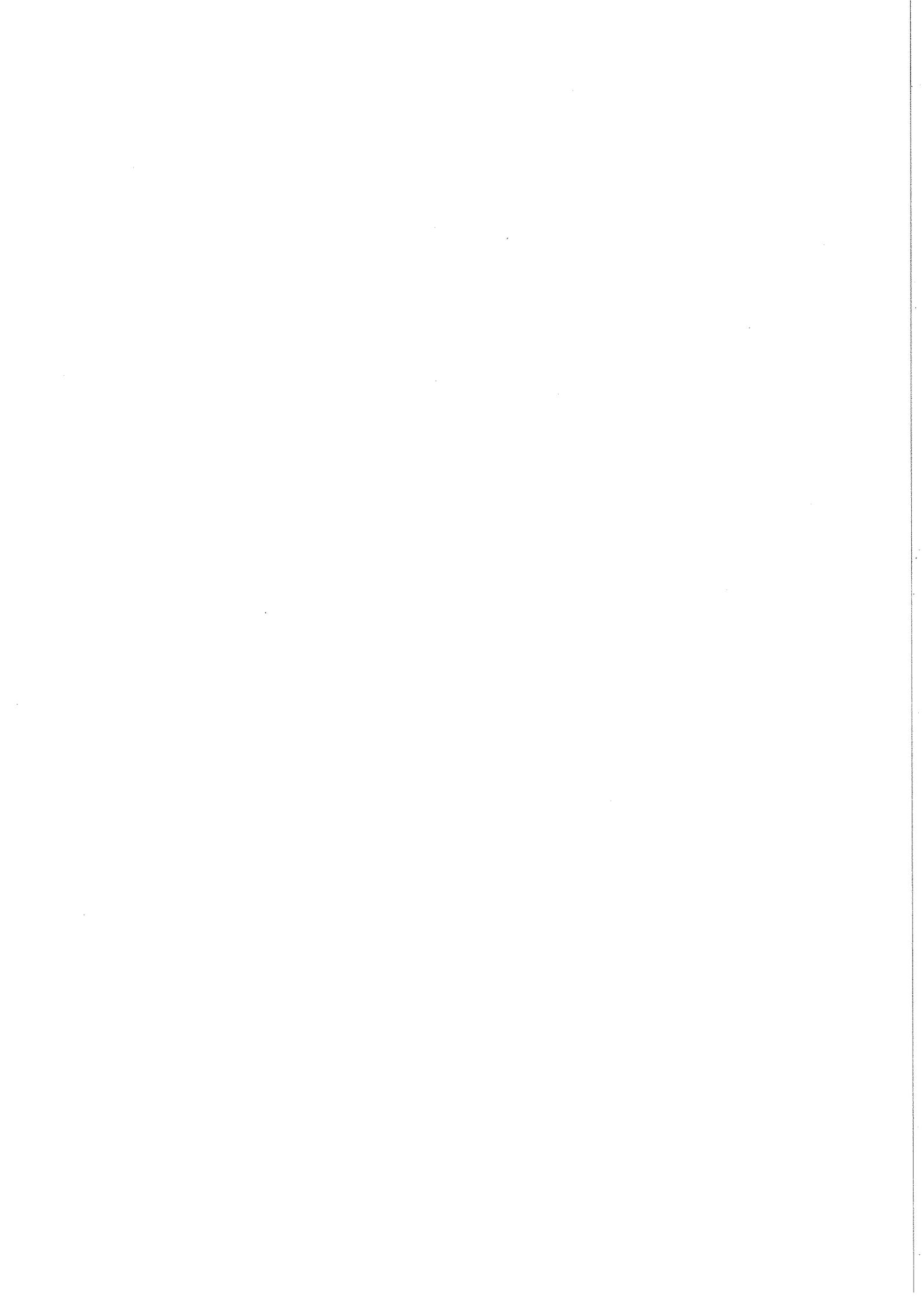
ID	Rd no	Rd name	From to	Main res	Aadt traf	Rd leng	Lq seal	Lq grav	Lq form	Lq unfor	One veh	Two veh	Con 4wd	Mth open
9501	9501	AURUKUN ROAD	AURUKUN TOWN TO PENINSULA DEVELOPMENTAL ROAD	AURUKUN/COOK	0	108	0	0	30	78	0	100	CON	8
9031	9031	PORTLAND ROADS ROAD	PENINSULA DEV. ROAD 90D - PORTLAND ROADS	COOK SHIRE COUNCIL	20(2)	136	0	47.7	89.1	0	100	0	CON	8
9004	9004	LAURA - LAKEFIELD	LAURA - MARINA PLAINS ROAD	COOK SHIRE COUNCIL	33(1)-31(1)	154.6	0	77	20.8	56.8	0	100	CON	8
9013	9013	KIMBA - GAMBOOLA ROAD	KIMBA ROAD - GAMBOOLA	COOK SHIRE COUNCIL	0	62.5	0	5	57.5	0	100	0	CON	9
9051	9051	KILLARNEY ACCESS	KILLARNEY - KIMBA ROAD	COOK SHIRE COUNCIL	0	8	0	0	0	8	100	0	CON	11
908	908	PENINSULA DEVELOPMENT	MT. MOLLOY - LAURA	DEPT OF TRANSPORT	184-270(2)	112.5	28.8	52.1	28.5	3.1	0	100	CON	12
9021	9021	MT AMOS ROAD	MT AMOS - COOKTOWN DEVELOPMENTAL ROAD	COOK SHIRE COUNCIL	0	16.3	0	9.2	0	7.1	100	0	CON	12
9032	9032	ARCHER POINT	ARCHER POINT - COOKTOWN DEV. ROAD 91A	COOK SHIRE COUNCIL	26(1)	10	0	0	10	0	100	0	CON	11
9037	9037	WILTON ACCESS	ENDEAVOUR VALLEY ROAD - POISON CREEK ROAD	COOK SHIRE COUNCIL	0	6	0	4.5	1.5	0	100	0	CON	11
9006	9006	STRATHAVEN - COEN	STRATHAVEN - COEN	COOK SHIRE COUNCIL	0	132	0	0	0	132	100	0	CON	6
9007	9007	MT WEBB - WAKOOKA	LAKEFIELD - STARCKE	COOK SHIRE COUNCIL	0	177	0	0	13	164	100	0	4WD	8
9022	9022	DIXIE ROAD	DUNBAR - PENINSULA DEVELOPMENTAL ROAD 90C	COOK SHIRE COUNCIL	7(2)	99.5	0	6.7	19.6	73.2	50	50	CON	10
9034	9034	LILYVALE ROAD	LILYVALE STATION - MARINA PLAINS ROAD	COOK SHIRE COUNCIL	0	22	0	14.7	13.3	0	100	0	CON	10
9003	9003	MUSGRAVE - MARINA PLAINS	MUSGRAVE - MARINA PLAINS	COOK SHIRE COUNCIL	20(2)	59	0	59	0	0	0	100	CON	8
9502	9502	CAPE FLATTERY	STRATHAVEN-CAPE FLATTERY	UNKNOWN	0	50	0	0	0	0	0	50	4WD	0
9039	9039	MCIVOR ROAD	ENDEAVOUR/BATTLE CAMP RD - ISABELLA/MC IVOR ROAD	SHIRE COOK COUNCIL	0	35	0	6.7	23.3	5	50	50	CON	11
9001	9001	COEN - PORT STEWART	COEN - PORT STEWART	COOK SHIRE COUNCIL	10(2)	47.9	0	25	22.9	0	0	100	CON	8
9010	9010	COEN - ROKEBY	PENINSULA DEV ROAD 90D - ROKEBY	COOK SHIRE COUNCIL	0	68	0	6	43	19	100	0	CON	8
9048	9048	MORETON - BRAMWELL	MORETON - BRAMWELL	COOK SHIRE COUNCIL	0	27	0	0	0	27	0	100	CON	7
9044	9044	IRON RANGE ROAD	QUINTEL BEACH - PORTLAND ROAD	COOK SHIRE COUNCIL	0	10.5	0	10.5	0	0	0	100	CON	12
9050	9050	YORK DOWNS - BATAVIA	PENINSULA DEV ROAD 90D (SUDLEY) - BATAVIA DOWNS	COOK SHIRE COUNCIL	0	47.5	0	0	0	47.5	100	0	CON	9
9062	9062	BAMAGA TELEGRAPH ROAD	BRAMWELL - BAMAGA	COOK SHIRE COUNCIL	0	131	0	0	0	131	100	0	CON	6
9046	9046	BAMAGA ROAD	BAMAGA - BRAMWELL	COOK SHIRE COUNCIL	27(2)	215	0	0	0	215	100	0	CON	12
9008	9008	MEIN - BATAVIA DOWNS	MORETON - PENINSULA DEV ROAD 90D	COOK SHIRE COUNCIL	34(1)	75.5	0	28.7	41	5.8	0	100	CON	9
90D	90D	PENINSULA DEVELOPMENTAL ROAD	COEN - WEIPA	DEPT OF TRANSPORT	65(1)-81(1)-87(1)	210.5	2.1	106.7	55.3	46.4	0	100	CON	9
90C	90C	PENINSULA DEVELOPMENTAL ROAD	LAURA - COEN	DEPT OF TRANSPORT	93(1)-79(1)-104(2)	246.3	4.9	104.4	74.6	62.4	0	100	CON	9
9047	9047	DIXIE - KIMBA ROAD	KIMBA - DIXIE ROAD	COOK SHIRE COUNCIL	0	58	0	0	0	58	100	0	CON	10
9023	9023	KIMBA ROAD	KIMBA - FAIRVIEW/PALMERVILLE ROAD	COOK SHIRE COUNCIL	0	72	0	11.4	56.4	4.2	50	50	CON	10
9011	9011	FAIRVIEW - PALMERVILLE	FAIRVIEW - PALMERVILLE	COOK SHIRE COUNCIL	27(2)	73	0	14	35	24	100	0	4WD	8
9020	9020	LAURA - WELCOME	LAURA - WELCOME STATION	COOK SHIRE COUNCIL	0	34	0	34	0	0	100	0	CON	10
9005	9005	MUSGRAVE - STRATHGORDON ROAD	MUSGRAVE - PORMPURA AW	COOK SHIRE COUNCIL	14(2)	124	0	60.9	21.4	41.7	0	100	CON	8
9503	9503	KOWANYAMA-RUTLAND PLAINS-DUNBAR	DUNBAR - KOWANYAMA	KOWANYAMA/CARPENTARIA	0	102	0	0	30	72	0	102	CON	9
9012	9012	ENDEAVOUR - BATTLE CAMP	OLD LAURA STATION - "LOUISIANA"	COOK SHIRE COUNCIL	27(1)-39(2)	75.7	0	30.6	35.6	9.5	50	50	CON	9
6601	6601	ENDEAVOUR VALLEY ROAD	COOKTOWN - BATTLE CAMP ROAD	DEPT OF TRANSPORT	213(1)-340(3)-420(3)-442(1)-490(	34.9	9.8	25.1	0	0	0	100	CON	12
91A	91A	COOKTOWN DEVELOPMENTAL ROAD	COOKTOWN - BUTCHERS HILL	DEPT OF TRANSPORT	214(2)-399(1)-301(1)-259(2)-204(	80.2	11.3	68.9	0	0	0	100	CON	12
9014	9014	ISABELLA - MC IVOR	ISABELLA CREEK - STARCKE	COOK SHIRE COUNCIL	15(3)	33	0.1	0	19.6	13.3	50	50	CON	11
6507	6507	SHIPTON'S FLAT ROAD	HELENVALE - COOKTOWN DEVELOPMENTAL ROAD	DEPT OF TRANSPORT	225(2)	7.6	0	7.6	0	0	0	100	CON	12
9002	9002	ROSSVILLE - BLOOMFIELD	ROSSVILLE - CAPE TRIBULATION ROAD	COOK SHIRE COUNCIL	109(1)-93(2)-142(2)	37.5	1.6	35.9	0	0	50	50	4WD	12
9505	9505	KOOLATAH-DUNBAR	KOOLATAH-DUNBAR	CARPENTARIA	0	15	0	0	0	0	15	100	4WD	3
9049	9049	DRUMDUFF-KOOLATAH	DRUMDUFF-KOOLATAH	COOK/CARPENTARIA	0	50	0	1	49	0	0	100	CON	10
9506	9506	SOUTHERN ACCESS ROAD	HOLROYD TO AURUKUN SHIRE	AURUKUN/COOK	0	130	0	0	0	130	90	40	4WD	8
9507	9507	PORMPURA AW- KOWANYAMA	PORMPURA AW- KOWANYAMA	PORMPURA AW- KOWANYAMA	0	110	0	0	0	110	0	110	4WD	8
9508	9508	DUNBAR - DIXIE	KOOLATAH - ORINERS	CARPENTARIA	0	80	0	0	0	80	0	80	4WD	8
9024	9024	HOLROYD ROAD	PENINSULA DEVELOPMENTAL ROAD 90C - HARRYS CREEK	COOK SHIRE COUNCIL	0	52.4	0	0	52.4	0	100	0	CON	9
9509	9509		BAMAGA - SEISIA		0	5	0	0	0	5	0	5	CON	12
9510	9510		BAMAGA - INJINOO		0	9	0	0	0	0	0	9	CON	8

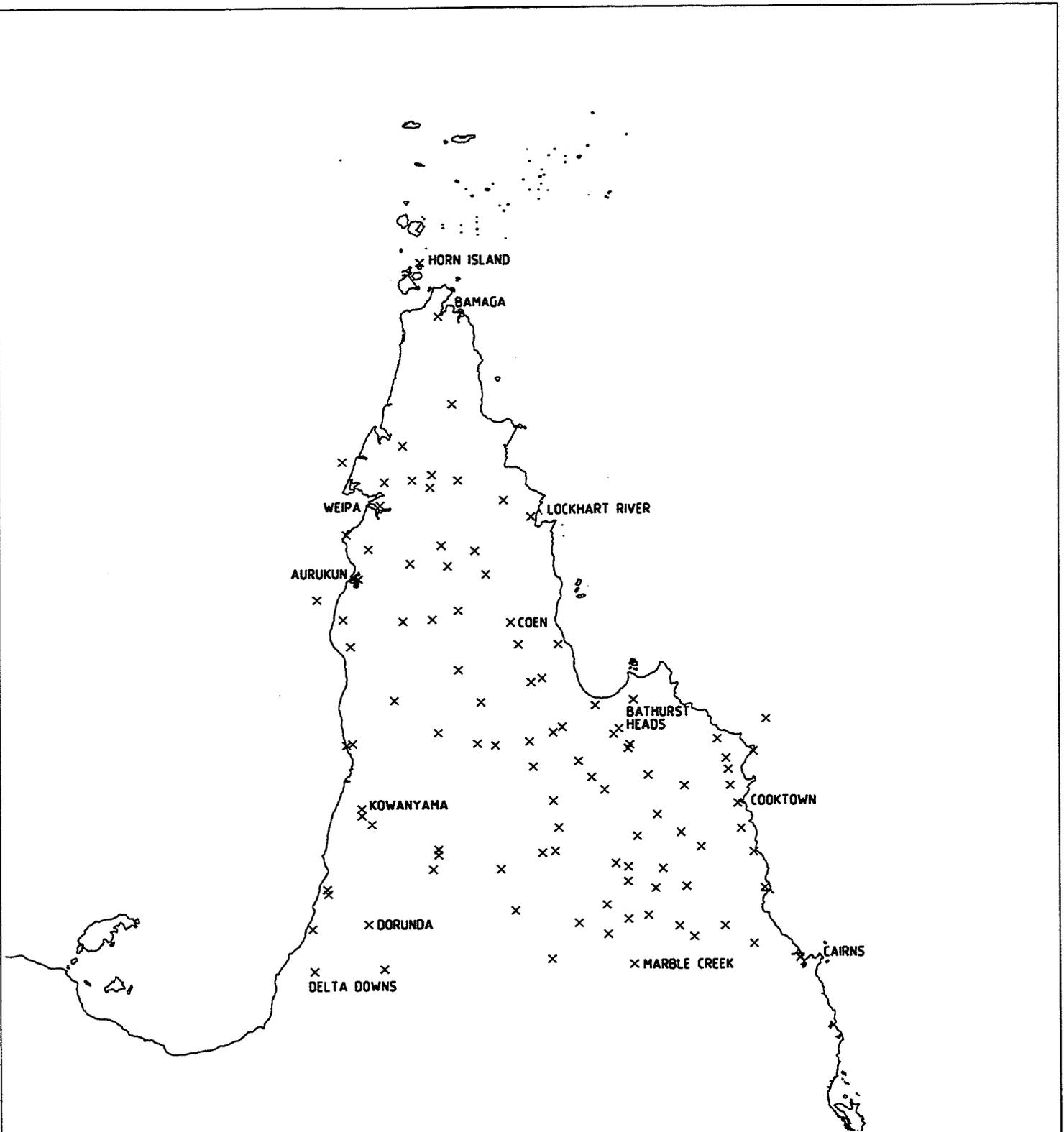
ID	Rd no	Rd name	Use	Ton frel	Tour rt	Flood aff	Ck name	L sand aff	el hole	Swamp aff	Slip aff	Data loc
9501	9501	AURUKUN ROAD	GENERAL FREIGHT	0	N	Y	JACKIN CREEK	5	5	0	30	GHD SURVEY
9031	9031	PORTLAND ROADS ROAD	GENERAL FREIGHT	200	Y		WENLOCK AND PASCOE CHANDIES RIVER	136	0	0	136	DOL
9004	9004	LAURA - LAKEFIELD		0	Y			0	0	0	0	DOL
9013	9013	KIMBA - GAMBOOLA ROAD		0	Y	Y	PALMER RIVER AND KING RIVER	0	0	0	0	DOL
9051	9051	KILLARNEY ACCESS		0	Y			0	0	0	0	DOL
90B	90B	PENINSULA DEVELOPMENT		7200	Y		LAURA R., RUTH CK., KENNEDY CK., PIG CK., LAURA R. STH	0	0	0	0	DOT
9021	9021	MT AMOS ROAD		0	Y	Y	CREEK CROSSINGS	0	0	0	0	DOL
9032	9032	ARCHER POINT		0	Y			0	0	0	0	DOL
9037	9037	WILTON ACCESS		0	Y			0	0	0	0	DOL
9006	9006	STRATHAVEN - COEN		0	Y			0	0	0	0	DOL
9007	9007	MT WEBB - WAKOOKA		0	Y	Y	MORGAN RIVER	0	0	10	0	DOL
9022	9022	DIXIE ROAD		0	Y			0	0	10	0	DOL
9034	9034	LILYVALE ROAD		0	Y			0	0	0	0	DOL
9003	9003	MUSGRAVE - MARINA PLAINS		0	Y	Y	SALTWATER CREEK	0	0	0	0	DOL
9502	9502	CAPE FLATTERY	CAPE FLATTERY MINE	0	N	UNKNOWN		20	0	0	0	COOK
9039	9039	MCIVOR ROAD		0	Y			0	0	0	0	DOL
9001	9001	COEN - PORT STEWART		0	Y	Y	STEWART CREEK	0	0	0	0	DOL
9010	9010	COEN - ROKEBY		0	Y			0	0	0	0	DOL
9048	9048	MORETON - BRAMWELL	GENERAL FREIGHT TO BAMAGA	200	Y	Y	WENLOCK RIVER	0	0	0	0	DOL
9044	9044	IRON RANGE ROAD	GENERAL FREIGHT TO LOCKHART R.	200	Y			0	0	0	0	DOL
9050	9050	YORK DOWNS - BATAVIA		0	Y	Y	CREEK CROSSINGS	0	0	5	0	DOL
9062	9062	BAMAGA TELEGRAPH ROAD	TOURIST ADVENTURE ROAD	0	Y			0	0	0	0	DOL
9046	9046	BAMAGA ROAD	GENERAL FREIGHT TO BAMAGA	200	Y	Y	WENLOCK RIVER	100	0	0	0	DOL
9008	9008	MEIN - BATAVIA DOWNS		0	Y			0	0	0	0	DOL
90D	90D	PENINSULA DEVELOPMENTAL ROAD		7000	Y	Y(4)	MYALL CK, ARCHER RIVER, COEN R., BOURNE CK., CHARLOTTE CK.	0	0	0	0	DOT
90C	90C	PENINSULA DEVELOPMENTAL ROAD		7200	Y	Y	35 STREAMS	0	0	0	0	DOT
9047	9047	DIXIE - KIMBA ROAD		0	Y		HOLROYD RIVER	0	0	0	0	DOL
9023	9023	KIMBA ROAD		0	Y			0	0	10	0	COOK
9011	9011	FAIRVIEW - PALMERVILLE		0	Y			0	0	10	0	COOK
9020	9020	LAURA - WELCOME		0	N			0	0	5	0	DOL
9005	9005	MUSGRAVE - STRATHGORDON ROAD	GENERAL FREIGHT TO PORMPURA AW	1000	Y	Y	LURKIN RIVER	40	0	5	0	DOL
9503	9503	KOWANYAMA-RUTLAND PLAINS-DUNBAR		1500	N	Y	GOOSBERRY CREEK	0	0	0	0	DOL
9012	9012	ENDEAVOUR - BATTLE CAMP		0	Y	Y	NORMANBY RIVER AND OTHER MINOR CREEKS	0	0	10	0	DOL
6601	6601	ENDEAVOUR VALLEY ROAD		0	Y			0	0	0	0	DOT
91A	91A	COOKTOWN DEVELOPMENTAL ROAD	GENERAL FREIGHT	11000	Y			0	0	25	0	DOT
9014	9014	ISABELLA - MC IVOR	CATTLE FREIGHT	0	Y	Y	BRIDGE CREEK AND OTHER MINOR CREEKS	0	0	0	0	COOK
6507	6507	SHIPTON'S FLAT ROAD		0	Y			0	0	0	0	DOT
9002	9002	ROSSVILLE - BLOOMFIELD	GENERAL FREIGHT - WUJAL WUJAL	0	Y	Y(4)	ALLIGATOR CK (3DAYS) (4)	0	0	0	15 (4)	WUJAL WUJAL COMM. (4)
9505	9505	KOOLATAH-DUNBAR	TOURIST ADVENTURE ROAD ACCESS	0	Y	Y	MITCHELL RIVER	0	0	0	0	DOL
9049	9049	DRUMDUFF-KOOLATAH		0	Y			0	0	0	0	DOL
9506	9506	SOUTHERN ACCESS ROAD	GENERAL FREIGHT	0	N		VARIOUS RIVERS	0	0	0	0	COOK
9507	9507	PORMPURA AW-KOWANYAMA	GENERAL FREIGHT TO PORMPURA AW	0	N		MITCHELL RIVER	0	0	0	0	DOL
9508	9508	DUNBAR - DIXIE		0	N			0	0	0	0	DOL
9024	9024	HOLROYD ROAD		0	Y	Y	HOLROYD RIVER	0	0	0	0	COOK
9509	9509		GENERAL FREIGHT/BUILDING MATERIALS / FUEL	0	N			0	0	0	0	DOL
9510	9510		BUILDING MATERIALS / FUEL	0	N	Y	VARIOUS CREEKS	0	0	0	0	DOL

ID	Rd no	Rd name	Data att	Tour acc	Features
9501	9501	AURUKUN ROAD	AURUKUN		
9031	9031	PORTLAND ROADS ROAD	LOCKHART RIVER	YES	IRON RANGE NAT. PARK/CAPE WEYMOUTH
9004	9004	LAURA - LAKEFIELD		YES	LAKEFIELD NAT PARK/4WD ADVISED
9013	9013	KIMBA - GAMBOOLA ROAD			PINNACLES
9051	9051	KILLARNEY ACCESS			
908	908	PENINSULA DEVELOPMENT	COOK		
9021	9021	MT AMOS ROAD			BLACK MOUNTAIN NATIONAL PARK
9032	9032	ARCHER POINT			ARCHER POINT
9037	9037	WILTON ACCESS			
9006	9006	STRATHAVEN - COEN			COLEMAN RIVER
9007	9007	MT WEBB - WAKOOKA			STARCKE, CAPE MELVILLE, LAKEFIELD NAT PK
9022	9022	DIXIE ROAD		NO	
9034	9034	LILYVALE ROAD			LILYVALE STATION
9003	9003	MUSGRAVE - MARINA PLAINS		YES	LAKEFIELD NATIONAL PARK
9502	9502	CAPE FLATTERY		NO	CAPE FLATTERY SILICA MINE
9039	9039	MCIVOR ROAD			
9001	9001	COEN - PORT STEWART		YES	OLD SILVER PLAINS/PORT STEWART
9010	9010	COEN - ROKEBY			ROKEBY NATIONAL PARK
9048	9048	MORETON - BRAMWELL			
9044	9044	IRON RANGE ROAD			IRON RANGE NAT. PARK
9050	9050	YORK DOWNS - BATAVIA			YORK DOWNS RUINS
9062	9062	BAMAGA TELEGRAPH ROAD		YES	ADVENTURE ROAD-DETOURS MAY BE NECESSARY
9046	9046	BAMAGA ROAD			JARDINE RIVER NAT PK
9008	9008	MEIN - BATAVIA DOWNS		YES	BATAVIA DOWNS
90D	90D	PENINSULA DEVELOPMENTAL ROAD	COOK		ROKEBY NATIONAL PARK/ARCHER RIVER/RUINS
90C	90C	PENINSULA DEVELOPMENTAL ROAD	COOK		LAKEFIELD NATIONAL PARK
9047	9047	DIXIE - KIMBA ROAD			
9023	9023	KIMBA ROAD			
9011	9011	FAIRVIEW - PALMERVILLE			
9020	9020	LAURA - WELCOME			
9005	9005	MUSGRAVE - STRATHGORDON ROAD	COOK/PORMPURAAW		COLEMAN RIVER
9503	9503	KOWANYAMA-RUTLAND PLAINS-DUNBAR	KOWANYAMA		
9012	9012	ENDEAVOUR - BATTLE CAMP			LAKEFIELD NATIONAL PARK
6601	6601	ENDEAVOUR VALLEY ROAD			ENDEAVOUR RIVER NAT PARK
91A	91A	COOKTOWN DEVELOPMENTAL ROAD	COOK		BLACK MOUNTAIN NAT PARK/SPRINGVALE
9014	9014	ISABELLA - MC IVOR			
6507	6507	SHIPTON'S FLAT ROAD	COOK		CEDAR BAY NATIONAL PARK
9002	9002	ROSSVILLE - BLOOMFIELD	WUJAL WUJAL COMM. (4		CEDAR BAY NATIONAL PARK/BLOOMFIELD RIVER
9505	9505	KOOLATAH-DUNBAR			
9049	9049	DRUMDUFF-KOOLATAH			PALMER RIVER
9506	9506	SOUTHERN ACCESS ROAD			
9507	9507	PORMPURAAW- KOWANYAMA	PORMPURAAW		
9508	9508	DUNBAR - DIXIE			
9024	9024	HOLROYD ROAD			
9509	9509				
9510	9510				

**APPENDIX C-2**

**GIS DATA AERODROMES**



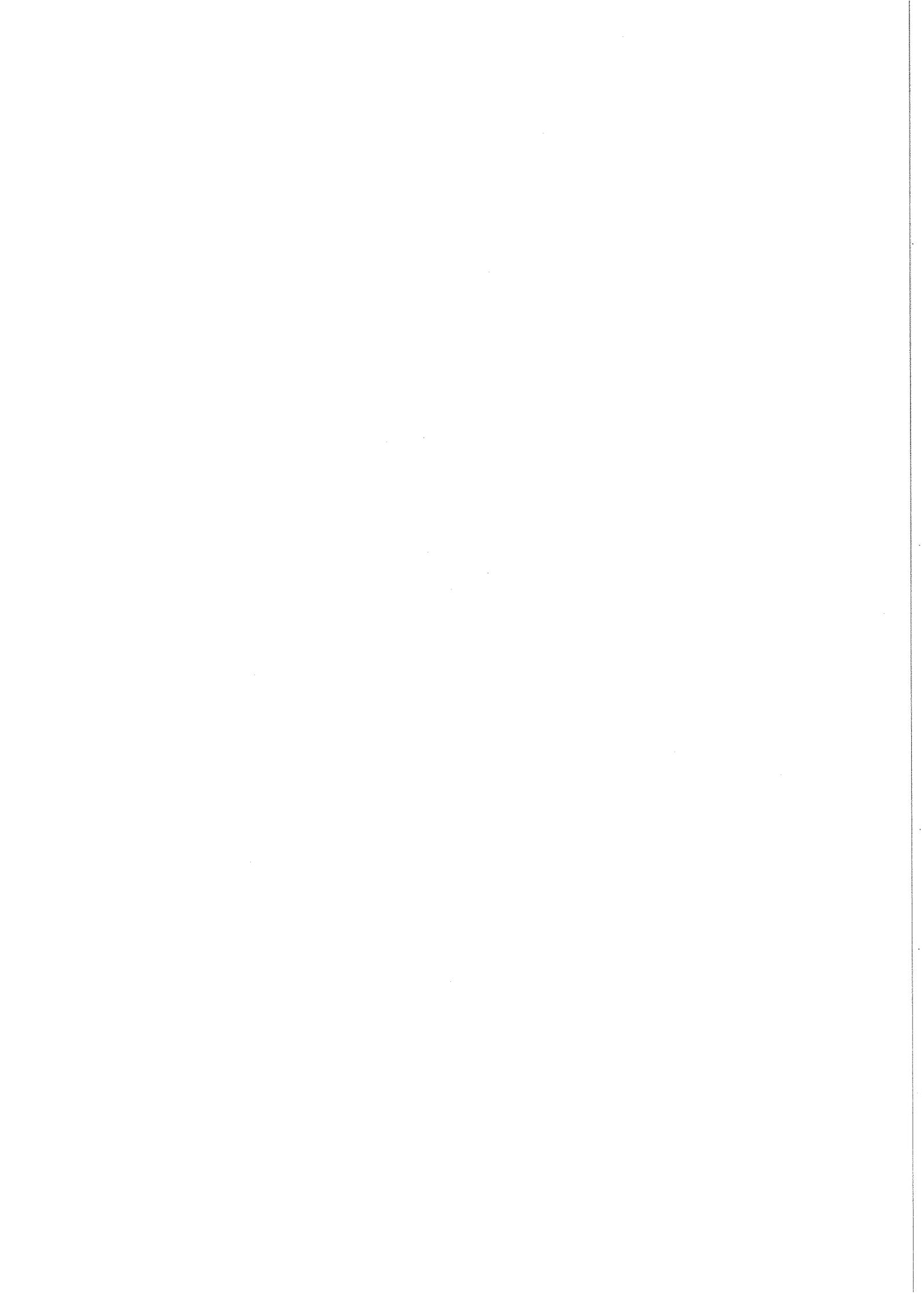


SCALE 1 : 500000

**CYPLUS  
GIS DATA  
AIRPORTS  
(& LANDING  
STRIPS)**



SEPT 94



DATA GROUP: AIRPORTS  
=====

DESCRIPTION OF DATA:  
=====

Airports describes the licenced aerodromes, unlicenced aerodromes and landing fields throughout Cape York Penensula. The condition of some of the landing fields are unknown. Airports lists those aerodromes which service several flights and the condition of access roads between the aerodrome and the centre which it serves. The data is structured as points. The aircraft which may use the aerodrome is not included in the data as this is at the descretion of the aerodrome owner as in many cases pavement concessions are required.

CONTENT OF DATA:  
=====

NUMBER OF LAYERS:

LAYER NAME	SPACIAL FEATURES	DATA STRUCTURE
Cyprop_id	Airport Node	Decimal(7, 0)
Air_name		Char(25)
Comm_serv		Char(20)
Air_status		Char(20)
Location		Char(20)
Surface		Char(20)
Own_oper		Char(35)
Acc_rd_nm		Char(25)
Rd_length		Char(7)
Lg_sealed		Char(7)
Lg_gravel		Char(7)
Lg_formed		Char(7)
Lg_uniform		Char(7)
Mth_open		Decimal(2, 0)
Use		Char(15)
Com_fl_wk		Char(10)
Oper_to_fr		Char(25)
Cha_fl_wk		Char(10)
Oper_to		Char(25)
Ton_freigh		Decimal(3, 0)
Tour_car		Decimal(3, 0)
Flood		Char(4)
Ck_name		Char(25)
Ls_sand		Char(4)
Mel_hole		Char(4)
Swamp_ar		Char(4)
Slip_ar		Char(4)
Data_sourc		Char(50)
Data_att		Char(10)

RELATED FILES:  
=====

- AIROUTES -
- MAILSERV -

LIST AND DESCRIPTION OF SPATIAL FEATURES  
=====

Airport node - Point position of airport

## NON SPATIAL FIELD NAME DESCRIPTIONS

=====  
Air\_name - Airport Name  
Comm\_serv - Community serviced by airport  
Air\_status - Airport operational status  
Location - Location (latitude, longitude)  
Surface - Runway surface material  
Own\_oper - Owner (private) / Operating Body  
Acc\_rd\_nm - Access road name to airport  
Rd\_length - Length of access road  
Lg\_sealed - Length of bitumen sealed access road  
Lg\_gravel - Length of gravel access road  
Lg\_formed - length of formed (defined) access road  
Lg\_uniform - Length of unformed (not defined) access road  
Mth\_open - Number of months road is usable  
Use - Typical use of airport  
Com\_fl\_wk - Commercial flights per week  
Oper\_to\_fr - Commercial flight operator  
Cha\_fl\_wk - Charter flight operator  
Oper\_to - Charter flight operator/s  
Ton\_freigh - Annual freight movements (tonnes)  
Flood - Is access road flood affected?  
Ck\_name - Creek name affecting access road  
Ls\_sand - Access road has loose sand  
Mel\_hole - Access road has mellon holes  
Swamp\_ar - Access road has swamp areas  
Slip\_ar - Access road has slippery areas  
Data\_sourc - Location Data sourced from  
Data\_att - Attribute data sourced from

COVERAGE - AIRPORTS.QAL

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LINEAGE

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Field Name	Information obtained from:
-----	-----
Cyprop_id	- Cyplus
Air_name	- Service operators / Cyplus Airfield Survey (Oct 93)
Comm_serv	- Service operators / Cyplus Airfield Survey (Oct 93)
Air_status	- Service operators / Cyplus Airfield Survey (Oct 93)
Location	- Service operators / Cyplus Airfield Survey (Oct 93)
Surface	- Service operators / Cyplus Airfield Survey (Oct 93)
Own_oper	- Service operators / Cyplus Airfield Survey (Oct 93)
Acc_rd_nm	- Local Community Council / Local Government
Rd_length	- Local Community Council / Local Government
Lg_sealed	- Local Community Council / Local Government
Lg_gravel	- Local Community Council / Local Government
Lg_formed	- Local Community Council / Local Government
Lg_uniform	- Local Community Council / Local Government
Mth_open	- Local Community Council / Local Government
Use	- Service operators / Cyplus Airfield Survey (Oct 93)
Com_fl_wk	- Service operators / Cyplus Airfield Survey (Oct 93)
Oper_to_fr	- Service operators / Cyplus Airfield Survey (Oct 93)
Cha_fl_wk	- Service operators / Cyplus Airfield Survey (Oct 93)
Oper_to	- Service operators / Cyplus Airfield Survey (Oct 93)
Ton_freigh	- Service operators / Cyplus Airfield Survey (Oct 93)
Tour_car	- Service operators / Cyplus Airfield Survey (Oct 93)
Flood	- Local Community Council / Local Government
Ck_name	- Local Community Council / Local Government
Ls_sand	- Local Community Council / Local Government
MeI_hole	- Local Community Council / Local Government
Swamp_ar	- Local Community Council / Local Government
Slip_ar	- Local Community Council / Local Government
Data_sourc	
Data_att	

POSITIONAL ACCURACY

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Coordinates as sourced from Cyplus Airfield Survey (Oct 93)

ATTRIBUTE ACCURACY

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Correct as of September 1994

LOGICAL CONSISTENCY

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Condition of landing fields unknown. Some may require repair work prior to reuse. Some airfields are historic only.

Cyprop id	Airport NAME	Community Served	Air Strip Status	Location	Surface	Owner/ Operator	Access Roads			
							Acc rd nm	Rd length	Lq sealed	Lq gravel
2122000	AURUKUN		LICENSED	13.21 S 141.43 E	1 GRAVEL/1 GRASS	AURUKUN SHIRE COUNCIL			0	0
4003001	BAMAGA		LICENSED	10.57 S 142.30 E	ASPHALT/BITUMEN	DEPT COMMUNITY SERVICES		14.0(1)	0	0
1138001	BATHURST HEAD		LANDING GROUND	14.29 S 144.14 E	RED NATURAL SOIL			0	0	0
2004000	BATTLE CAMP		LANDING GROUND	15.17 S 144.42 E	NATURAL	A, D, J&D MATTHEWS		0	0	0
1139001	BEAGLE		LANDING GROUND	13.05 S 141.49 E	NATURAL			0	0	0
4006001	COEN		LICENSED	13.45 S 143.06 E	GRAVEL/BITUMEN	COOK SHIRE COUNCIL			0	0
1023001	BIZANT	COEN	LANDING GROUND	14.45 S 144.06 E	NATURAL	NAT. PARKS & WILDLIFE SERVICE			0	0
2058000	SOUTHWELL		LANDING GROUND	14.29 S 142.03 E	HARD SAND			0	0	0
2041000	MARY VALLEY		LANDING GROUND	15.03 S 143.44 E	NATURAL	MJ & CF SHEPHERD			0	0
2044000	MERLUNA		LANDING GROUND	13.03 S 142.20 E	HARD IRONSTONE	MERLUNA CATTLE STATION PTY LTD			0	0
2077001	MEYERS		LANDING GROUND	16.02 S 144.11 E	NATURAL			0	0	0
2078001	MOUNT BAIRD		LANDING GROUND	15.08 S 145.06 E	GRASS			0	0	0
2090000	MOUNT CARBINE		LANDING GROUND	16.35 S 145.04 E	NATURAL			0	0	0
2049000	PALMERVILLE		LANDING GROUND	16.00 S 144.04 E	NATURAL	A & JT WILSON			0	0
2080001	PICCANINNY PLAINS		LANDING GROUND	13.06 S 142.47 E	NATURAL			0	0	0
2029000	KENDALL RIVER		LANDING GROUND	13.45 S 142.08 E	IRONSTONE GRAVEL	J F BROCK			0	0
2082000	DIANNE MINE		LANDING GROUND	16.03 S 144.30 E	NATURAL			0	0	0
2012000	DIXIE		LANDING GROUND	15.06 S 143.19 E	GRAVEL	HUGHES BROS.			0	0
2013000	DRUMDUFF		LANDING GROUND	16.03 S 143.01 E	NATURAL	DRUMDUFF-HIGHBURY PASTORAL CO			0	0
2071001	HIGHBURY		LANDING GROUND	16.28 S 143.09 E	GRAVEL			0	0	0
4014001	HOPEVALE	HOPEVALE	LANDING GROUND	15.17 S 145.07 E	NATURAL			0	0	0
1140001	BELLEVUE		LANDING GROUND	16.31 S 144.11 E	NATURAL			0	0	0
2075001	BILLY LAGOON		LANDING GROUND	12.31 S 142.23 E	GRASS			0	0	0
4034001	BLOOMFIELD RIVER	WUJAL WUJAL(1)	LANDING GROUND	15.54 S 145.20 E	GRAVEL		18.0(1)	0	0	0
2094000	BULIMBA		LANDING GROUND	16.53 S 143.29 E	NATURAL			0	0	0
1141001	CANNIBAL CREEK		LANDING GROUND	16.14 S 144.26 E	NATURAL			0	0	0
2081000	CAPE FLATTERY		LANDING GROUND	14.56 S 145.20 E	NATURAL			0	0	0
1142001	COCONUT		LANDING GROUND	12.57 S 141.37 E	NATURAL			0	0	0
4006002	COEN TOWNSHIP		LANDING GROUND	13.58 S 143.11 E	NATURAL			0	0	0
4007001	COOKTOWN	COOKTOWN	LICENSED	15.27 S 145.11 E	ASPHALT/BITUMEN	COOK SHIRE COUNCIL	10.0(1)		10.0(1)	0
2010000	CROCODILE		LANDING GROUND	15.43 S 144.40 E	NATURAL	G R CARLON		0	0	0
207001	DELTA DOWNS		LICENSED	17.00 S 141.19 E	GRAVEL	MORR MORR PASTORAL CO		0	0	0
2055000	SILVER PLAINS		LANDING GROUND	13.58 S 143.33 E	GRASS	R RAND & PRS. CHARLOTTE PASTORAL CO		0	0	0
2080000	STRATHBURN		LANDING GROUND	14.30 S 142.50 E	IRONSTONE	GJ, RE & NT BARTLETT		0	0	0
2081000	STRATHGORDON		LANDING GROUND	14.48 S 142.26 E	NATURAL			0	0	0
2059000	STRATHHAVEN		LANDING GROUND	14.54 S 142.56 E	SHORT GRASS	D F FLETCHER		0	0	0
2082000	STRATHLEVEN		LANDING GROUND	15.54 S 143.24 E	SANDY GRASS	J M KOZICKA		0	0	0
2083000	STRATHMAY		LANDING GROUND	14.53 S 142.48 E	NATURAL	E A BOWYER		0	0	0
1017001	TI TREE		LANDING GROUND	13.59 S 141.39 E	FIRM SAND			0	0	0
4035001	TRIBUTATION		LANDING GROUND	16.14 S 145.26 E	NATURAL			0	0	0
2091000	VANROOK		DE-LICENSED - JUN 93	16.58 S 141.57 E	NATURAL	QUEENSLAND STATIONS LTD, VANROOK ST		0	0	0
2085000	VIOLET VALE		LANDING GROUND	14.44 S 143.35 E	GRAVEL	A & A CHAPPLE		0	0	0
2086000	WATSON RIVER		LANDING GROUND	13.13 S 142.12 E	NATURAL	C C & D CRAWFORD		0	0	0
2087000	WATTLE HILL		LANDING GROUND	12.36 S 143.03 E	LOOSE SAND	W S & N CRAWFORD		0	0	0
4033001	WEIPA	WEIPA	LICENSED	12.40 S 141.55 E	1 ASPHALT/1 GRAVEL	WEIPA SERVICES DIV, COMALCO LTD	4.0(1)		4.0(1)	0
2088000	WOLVERTON		LANDING GROUND	13.19 S 142.53 E	NATURAL	WA, KW & NJ JACKSON		0	0	0
2092000	WROTHAM PARK		LICENSED	16.39 S 144.00 E	GRAVEL	AUST AGRICULTURAL CO, WROTHAM PK ST		0	0	0
2089000	YARRADEN		LANDING GROUND	14.19 S 143.18 E	NATURAL	B J & M SHEPHERD		0	0	0
2093000	YALKULA		LANDING GROUND	16.45 S 145.20 E	NATURAL			0	0	0
2088000	MARBLE CREEK		LANDING GROUND	16.56 S 144.14 E	NATURAL			0	0	0
2096000	MARINA PLAINS		LANDING GROUND	14.32 S 143.83 E	NATURAL			0	0	0
2043000	MERIPAH		LANDING GROUND	13.44 S 142.24 E	DIRT/GRAVEL	MERIPAH STATION PTY LTD		0	0	0
2088000	MEYERFIELD		LANDING GROUND	12.28 S 141.58 E	NATURAL			0	0	0
402000	MORETON		LANDING GROUND	12.27 S 142.36 E	GRASS			0	0	0
2085000	MOUNT MULGRAVE		LANDING GROUND	16.23 S 143.59 E	GRAVEL			0	0	0
2079001	MUNBURRA		LANDING GROUND	14.51 S 145.00 E	NATURAL			0	0	0
4022001	MUSGRAVE		LANDING GROUND	14.47 S 143.30 E	NATURAL			0	0	0
1013001	PERET		LANDING GROUND	13.44 S 141.35 E	NATURAL			0	0	0
2050000	PINNACLE		LANDING GROUND	15.40 S 143.33 E	NATURAL			0	0	0
2121000	PORMPURAAW	PORMPURAAW(1)	LICENSED	14.54 S 141.36 E	GRASSED CLAY SAND	PORMPURAAW COMMUNITY COUNCIL	2.0(1)		0	0
4025001	PORMPURAAW EAST	PORMPURAAW(1)	LANDING GROUND	14.53 S 141.40 E	NATURAL			0	0	0
2051000	ROKEBY		LANDING GROUND	13.39 S 142.36 E	GRAVEL	NAT. PARKS & WILDLIFE SERVICE		0	0	0
2094000	RUTLAND PLAINS		LICENSED	15.38 S 141.50 E	GRASSED GREY CLAY	MCDONALD HOLDINGS PTY LTD		0	0	0
2087000	JONROY		LANDING GROUND	16.29 S 144.22 E	NATURAL			0	0	0
2025000	JOWALBINNA		LANDING GROUND	15.45 S 144.16 E	GRASS/EARTH			0	0	0
2027000	KALINGA		LANDING GROUND	15.12 S 143.51 E	NATURAL	R.P L D & M.G HARDY		0	0	0
2028000	KALPOWAR		LANDING GROUND	14.54 S 144.12 E	NATURAL	WALSON PTY LTD		0	0	0
2030000	KILLARNEY		LANDING GROUND	15.25 S 143.30 E	GRASS			0	0	0
2033000	KING JUNCTION		LANDING GROUND	15.53 S 143.31 E	GRASS	SANDRANCH PTY LTD		0	0	0
2035000	KOOLATAH		LANDING GROUND	15.55 S 142.27 E	CLAY	KOOLATAH PASTORAL CO		0	0	0

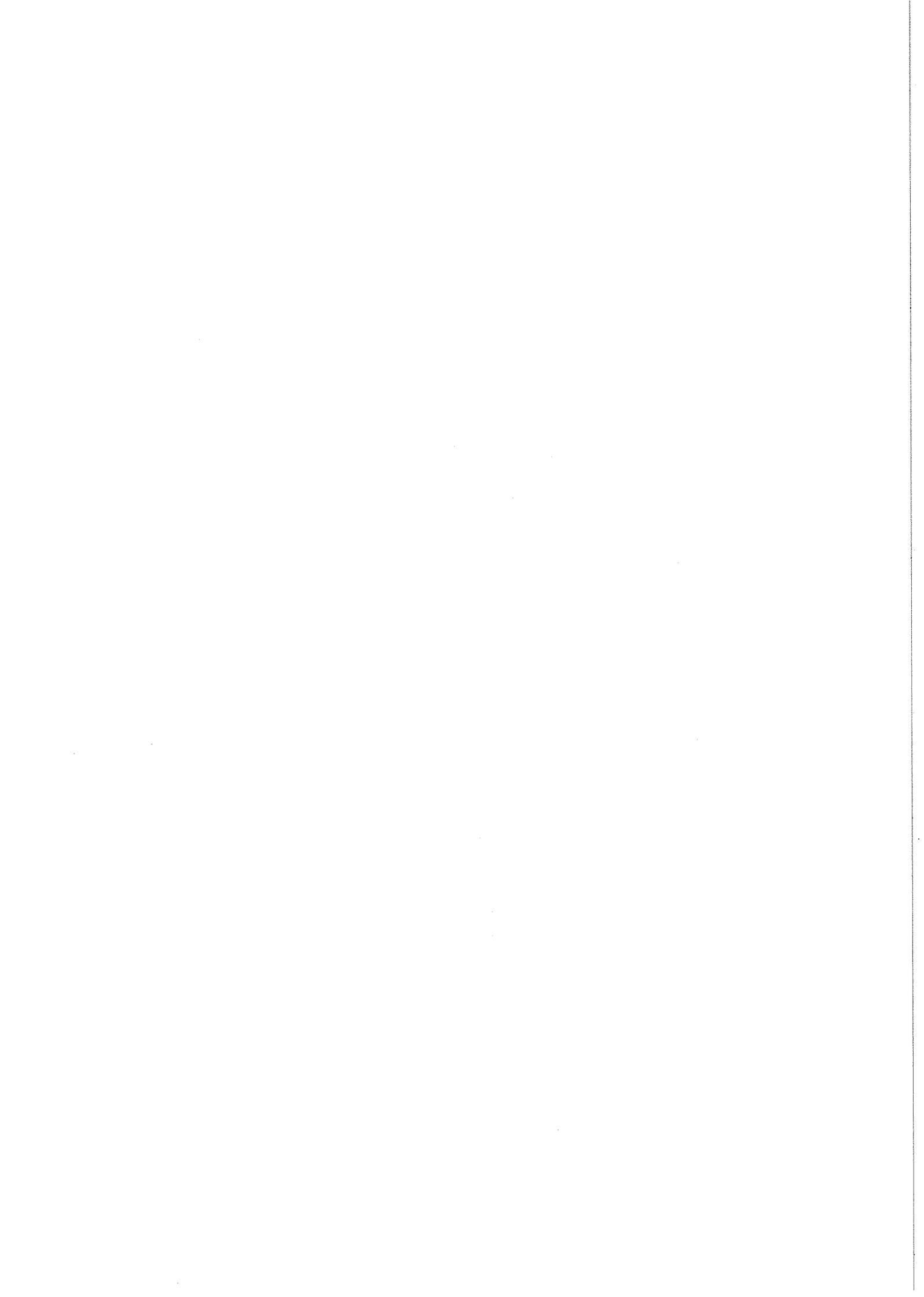
Cyprop Id	Airport NAME	Community Served	Air Strip Status	Location	Surface	Owner/ Operator	Acc rd nm	Rd length	Lg sealed	Lg gravel
2035001	KOOLAH THOMESTEAD		LANDING GROUND	15.97 S 142.27 E NATURAL		KOOLAH PASTORAL CO				0
2036000	KOOLBURRA		LANDING GROUND	15.19 S 143.54 E SANDY LOAM		K J & M D LOEBGEIER				0
2073001	KONDOPARINGA		LANDING GROUND	18.41 S 144.47 E GRAVEL						0
2120000	KOWANYAMA	KOWANYAMA	DE-LICENSED - JUN 83	15.28 S 141.45 E SEALED RUNWAY		KOWANYAMA COMMUNITY COUNCIL	1.0(1)		1.0(1)	0
4015001	KOWANYAMA RODEO STRIP		LANDING GROUND	15.33 S 141.45 E NATURAL						0
2037000	LAKEFIELD		LANDING GROUND	14.95 S 144.11 E GRAVEL		NAT. PARKS & WILDLIFE SERVICE				0
2085000	LAKELAND DOWNS		LANDING GROUND	15.51 S 144.51 E GRASS						0
4017001	LAURA		LANDING GROUND	15.33 S 144.27 E GRAVEL/GRASS						0
2076001	LAURA STATION		LANDING GROUND	15.11 S 144.22 E GRASS		NAT. PARKS & WILDLIFE SERVICE				0
3047001	LIZARD ISLAND		LANDING GROUND	14.40 S 145.27 E BITUMEN SEALED						0
2123000	LOCKHART RIVER	LOCKHART RIVER	LICENSED	12.47 S 143.18 E ASPHALT/BITUMEN		LOCKHART RIVER COMMUNITY COUN.	4.5(1)			0
2040000	MAITLAND DOWNS		LANDING GROUND	16.13 S 144.43 E NATURAL		GD & JH AHLERS				0
2083000	DORLAND		LANDING GROUND	16.33 S 141.45 E NATURAL		A G GRILL, DORLAND STATION				0
2014000	DUNBAR		LICENSED	16.03 S 142.24 E NATURAL		HALMIKI PTY LTD				0
2015000	FAIRLIGHT		DE-LICENSED - JUN 83	14.48 S 143.03 E NATURAL		R & S M CALLAGHAN				0
2085000	GAMBOLA		LANDING GROUND	16.33 S 143.40 E GRAVEL/NATURAL						0
2086000	GILBERT POCKET		LANDING GROUND	16.36 S 141.18 E SHELL GRIT/DIRT						0
2018000	GLEN GARLAND		LANDING GROUND	14.52 S 143.17 E GRASSED SANDY LOAM						0
2021000	HEATHLANDS		LANDING GROUND	11.45 S 142.35 E GRAVEL		NAT. PARKS & WILDLIFE SERVICE				0
2076000	HELENVALE		LANDING GROUND	15.41 S 143.13 E NATURAL						0
2022000	HOLROYD		LANDING GROUND	14.07 S 143.37 E NATURAL		K J SHEPHERDSON				0
2077000	HURRICANE		LANDING GROUND	18.35 S 144.39 E GRAVEL						0
2072001	INKERMAN		LANDING GROUND	18.14 S 141.27 E NATURAL		INKERMAN PASTORAL CO				0
2072000	INKERMAN HOMESTEAD		LANDING GROUND	18.14 S 141.26 E NATURAL		INKERMAN PASTORAL CO				0
2070000	AGNEW		LANDING GROUND	12.08 S 142.08 E NATURAL						0
3038001	HORN ISLAND		LICENSED	10.35 S 142.17 E ASPHALT/BITUMEN		TORRES SHIRE COUNCIL	HORN IS AIRPORT ROAD(1)	5.0(1)	1.3(1)	3.7(1)
	0 CAIRNS									
1000001	MAYK			13.55 S 141.35 E NATURAL						
4000001	ARCHER RIVER			13.24 S 142.54 E NATURAL						
2003000	BATAVIA DOWNS			12.40 S 142.40 E GRASS		C & J MEHONOSHEN				
2084000	FINE GOLD			18.17 S 144.18 E SAND						
2083000	LILLY VALE			14.28 S 143.40 E						
2086000	LYNFIELD			12.28 S 141.58 E NATURAL						
2086000	STAXIE			15.03 S 145.08 E NATURAL						
2084000	STUDLEY			12.45 S 142.22 E GRASS/GRAVEL		COMALCO ALUMINIUM LTD				





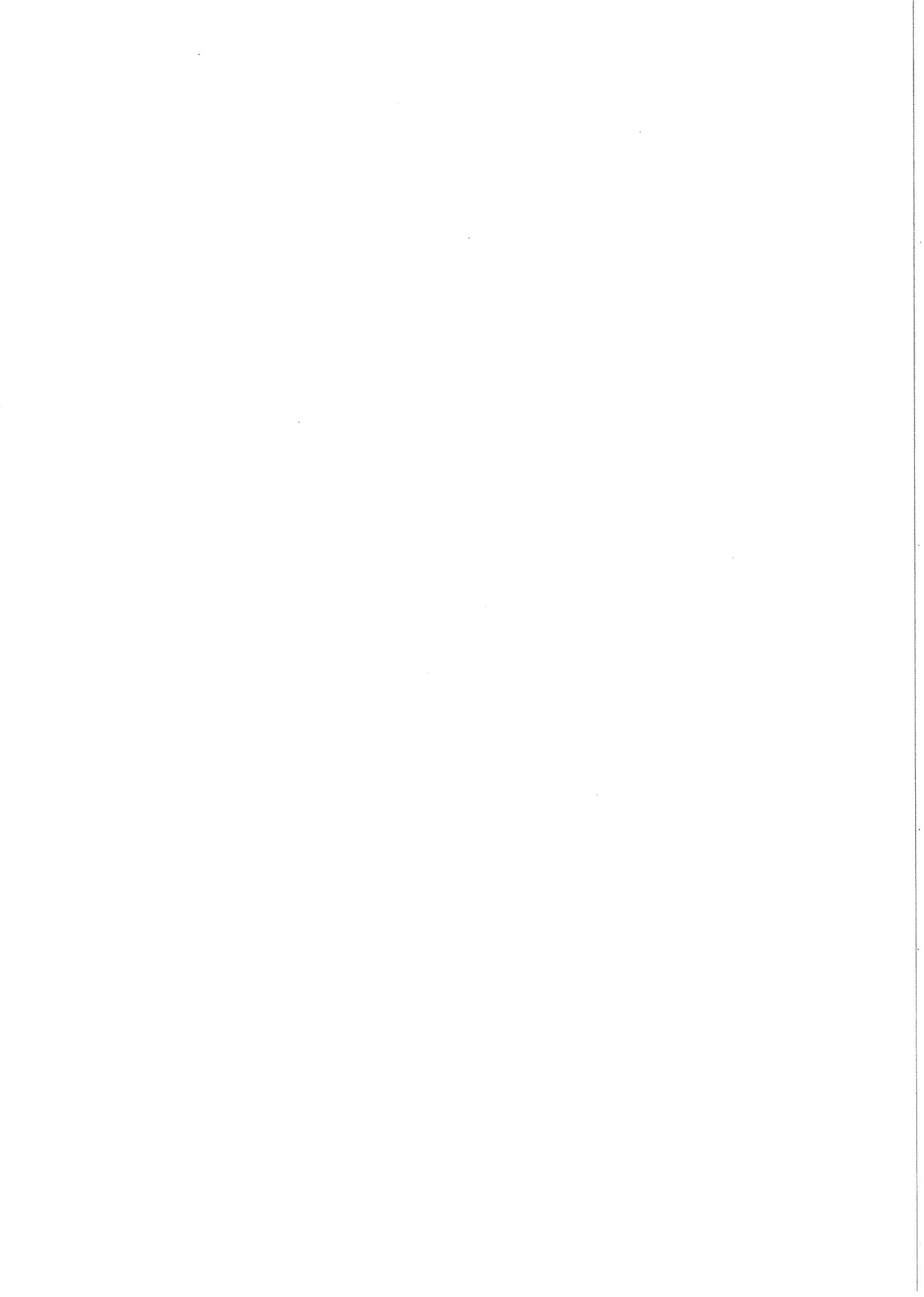


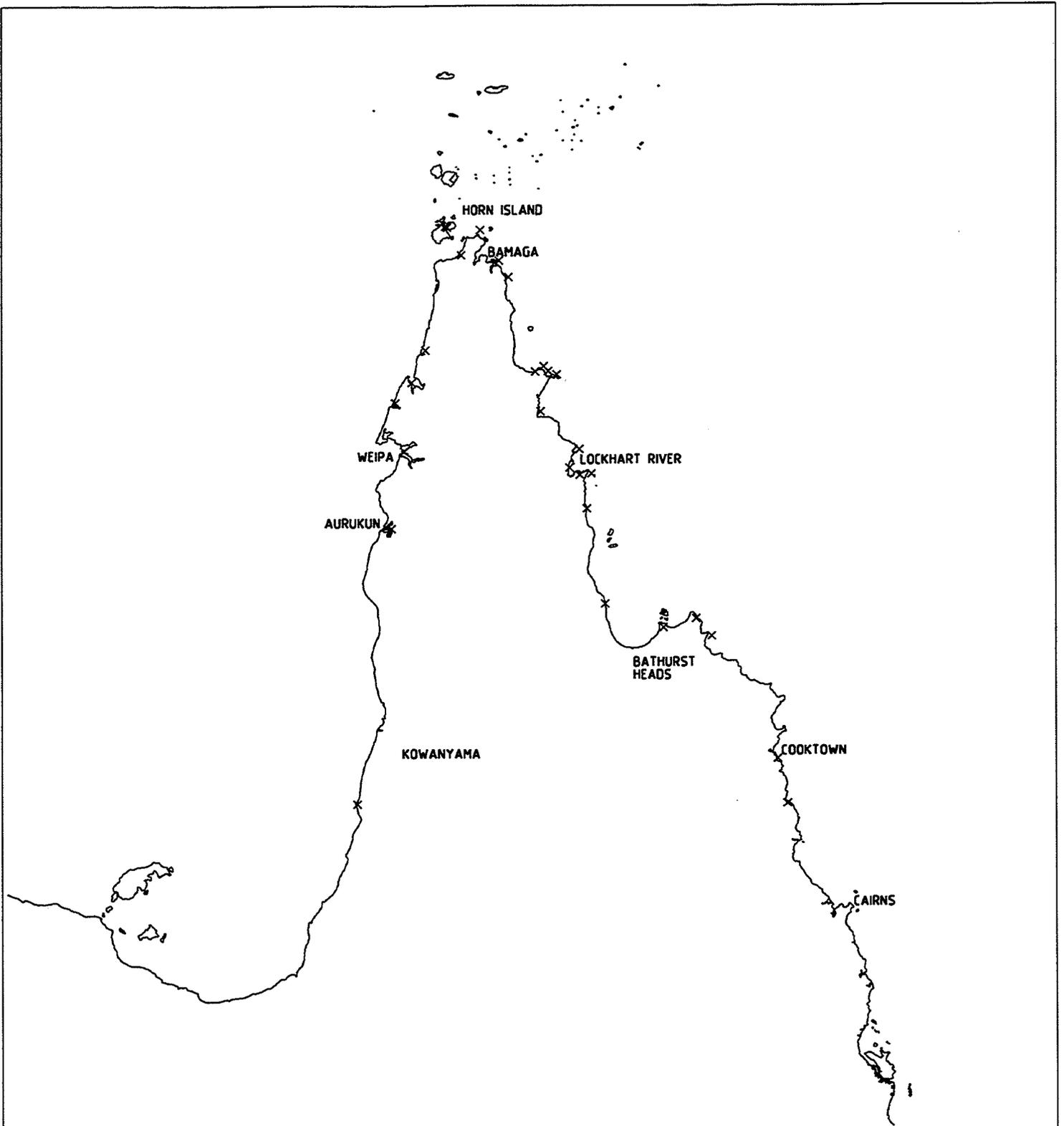
Cyprop id	Airport	Ck name	Access	Roads	amp	Slip ar	Data sourc	Data att
	NAME		Ls sand	Mel hole				
2035001	KOOLATAH HOMESTEAD							
2036000	KOOLBURRA							
2073001	KONDOPARINGA							
2120000	KOWANYAMA						KOWANYAMA COUNCIL(1)	
4015001	KOWANYAMA RODEO STRIP						KOWANYAMA COUNCIL (1)	
2037000	LAKEFIELD							
2095000	LAKELAND DOWNS							
4017001	LAURA							
2078001	LAURA STATION							
3047001	LIZARD ISLAND							
2123000	LOCKHART RIVER		Y(1)			Y(1)	LOCKHART RIVER COUNCIL(1)	
2040000	MAITLAND DOWNS							
2083000	DORLINDA							
2014000	DUNBAR							
2015000	FAIRLIGHT							
2085000	GAMBOOLA							
2088000	GILBERT POCKET							
2018000	GLEN GARLAND							
2021000	HEATHLANDS							
2076000	HELENMALE							
2022000	HOLROYD							
2077000	HURRICANE							
2072001	INKERMAN							
2072000	INKERMAN HOMESTEAD							
2074000	AGNEW							
3038001	HORN ISLAND		Y(1)			Y(1)	TORRES SHIRE CO(1),HAMMOND ISL COUNCIL	
0	CAIRNS							
1000001	AAYK							
4000001	ARCHER RIVER							
2003000	BATAVIA DOWNS							
2084000	FINE GOLD							
2038000	LILY VALE							
2088000	MYERFIELD							
2058000	STARKE							
2084000	STUDLEY							



**APPENDIX C-3**

**GIS DATA SEA PORTS**



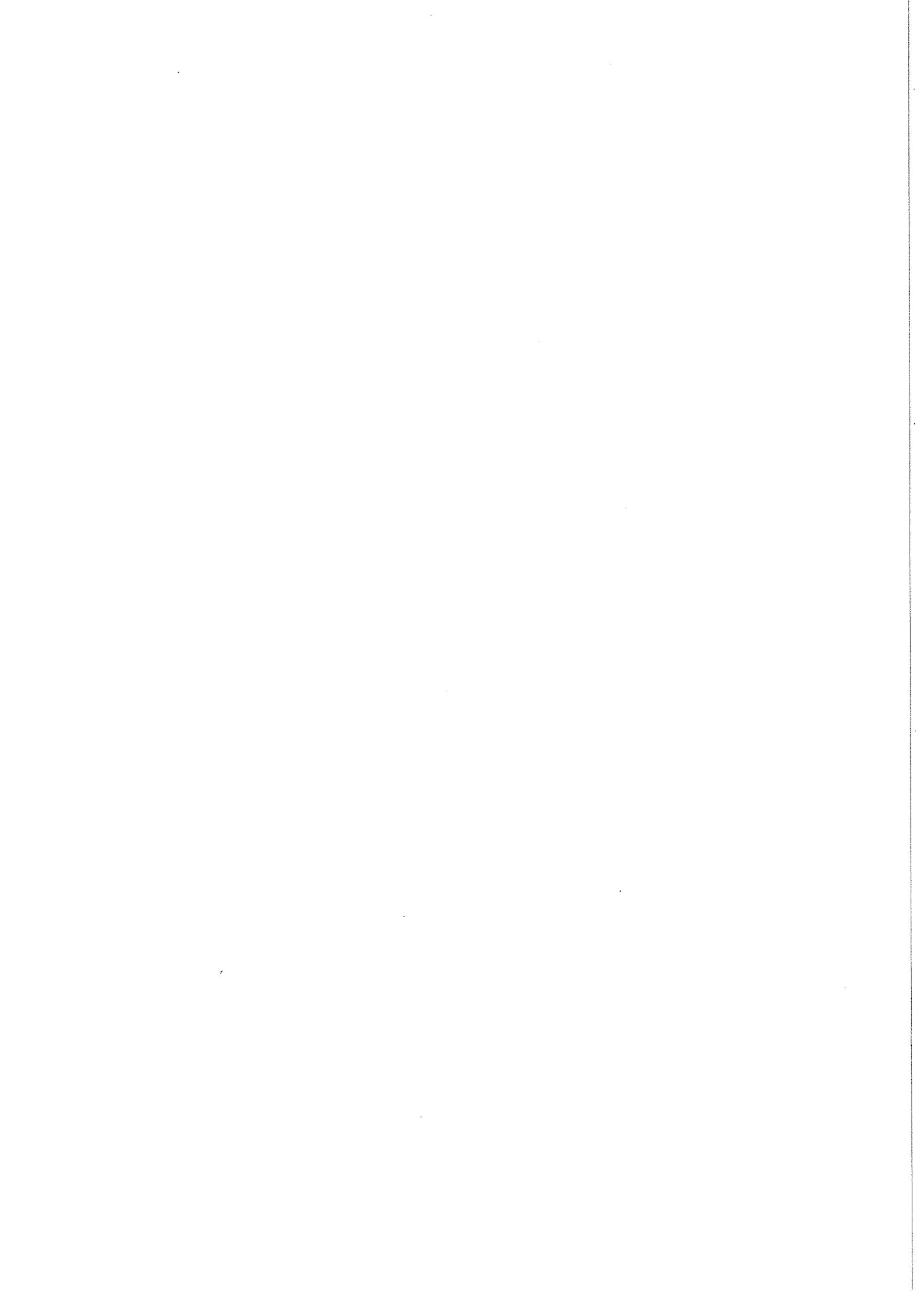


SCALE 1 : 5000000

**CYPLUS  
GIS DATA  
SEA PORTS  
(EXISTING  
& POTENTIAL)**



SEPT 94



DATA GROUP: SEAPORTS  
=====

DESCRIPTION OF DATA:  
=====

Seaports describes the existing port facilities and barge landings as well as potential ports. The condition of the roads between the seaport/landing and the centre which it services is also included. Sea transport is the only all year round means of delivering freight at the lesser cost than air freight. The data is structured as points.

CONTENT OF DATA:  
=====

NUMBER OF LAYERS: 29

LAYER NAME	SPACIAL FEATURES	DATA STRUCTURE
Cyprop_id	Port Node	Decimal(7, 0)
Port_name		Char(20)
Comm_serv		Char(60)
Port_locat		Char(60)
Port_categ		Char(30)
Port_suit		Char(30)
Authority		Char(25)
Construct		Char(50)
Facil_avai		Char(25)
Access		Char(20)
Rd_length		Char(7)
Lg_sealed		Char(7)
Lg_gravel		Char(7)
Lg_formed		Char(7)
Lg_uniform		Char(7)
Mth_open		Decimal(2,0)
Use		Char(15)
Operators		Char(25)
Frei_class		Char(40)
Ton_frei		Char(15)
Disr_serv		Char(10)
Flood		Char(4)
Ck_name		Char(25)
Ls_sand		Char(4)
Mel_hole		Char(4)
Swamp_ar		Char(4)
Slip_ar		Char(4)
Data_sourc		Char(50)
Data_att		Char(15)

RELATED FILES:  
=====

LIST AND DESCRIPTION OF SPATIAL FEATURES  
=====

Port Node - Point position of seaport

NON SPATIAL FIELD NAME DECRPTIONS  
=====

- Air\_name - Airport Name
- Cyprop\_id - Cyplus assigned identification number

Port_name	- Seaport name
Comm_serv	- Community serviced by seaport
Port_locat	- Seaport location (relative to nearest major township)
Port_categ	- Developed status of seaport facilities
Port_suit	- Seaport suitable for use as
Authority	- Controlling authority / operator
Construct	- Existing constructed facilities
Facil_avai	- Services available (retail, communications, etc)
Access	- Vehicular access available to port
Rd_length	- Total length of access road
Lg_sealed	- Length of bitumen sealed portion of access road
Lg_gravel	- Length of gravel portion of access road
Lg_formed	- Length of formed portion of access road
Lg_uniform	- Length of unformed portion of access road
Mth_open	- Months seaport is open
Use	- Main use of seaport
Operators	- Shipping operators utilising seaport
Frei_class	- Type of freight shipped from/to
Ton_frei	- Approx. yearly freight tonnage handled
Disr_serv	- Is port services disrupted during rough weather
Flood	- Is access road flood affected by flooding
Ck_name	- Creek affecting road flooding
Ls_sand	- Is access road sand affected
Mel_hole	- Is access road Melon Hole affected
Swamp_ar	- Is access road swamp affected
Slip_ar	- Is access road slip affected
Data_sourc	- Location data sourced from
Data_att	- Attribute data sourced from

COVERAGE - SEAPORTS.QAL

=====

LINEAGE

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Field Name	Information obtained from:
-----	-----
Cyprop_id	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Port_name	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Comm_serv	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Port_locat	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Port_categ	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Port_suit	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Authority	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Construct	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop / Local community council / Local Government
Facil_avai	- From Port Services Branch (Report 7/5/93) Qld Dept. of Transop
Access	- Local community council / Local Government (Access Road)
Rd_length	- Local community council / Local Government ( " " )
Lg_sealed	- Local community council / Local Government ( " " )
Lg_gravel	- Local community council / Local Government ( " " )
Lg_formed	- Local community council / Local Government ( " " )
Lg_uniform	- Local community council / Local Government ( " " )
Mth_open	- Local community council / Local Government ( " " )
Use	- Local community council / Local Government ( " " )
Operators	- Service Operators / Local Commiunity Councils
Frei_class	- Service Operators / Local Commiunity Councils
Ton_frei	- Service Operators / Local Commiunity Councils
Disr_serv	- Service Operators / Local Commiunity Councils
Flood	- Local community council / Local Government (Access Road)
Ck_name	- Local community council / Local Government (Access Road)
Ls_sand	- Local community council / Local Government (Access Road)
Mel_hole	- Local community council / Local Government (Access Road)
Swamp_ar	- Local community council / Local Government (Access Road)
Slip_ar	- Local community council / Local Government (Access Road)
Data_sourc	
Data_att	

POSITIONAL ACCURACY

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Scaled from 1:100000 topographical maps

ATTRIBUTE ACCURACY

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Correct as of September 1994

LOGICAL CONSISTENCY

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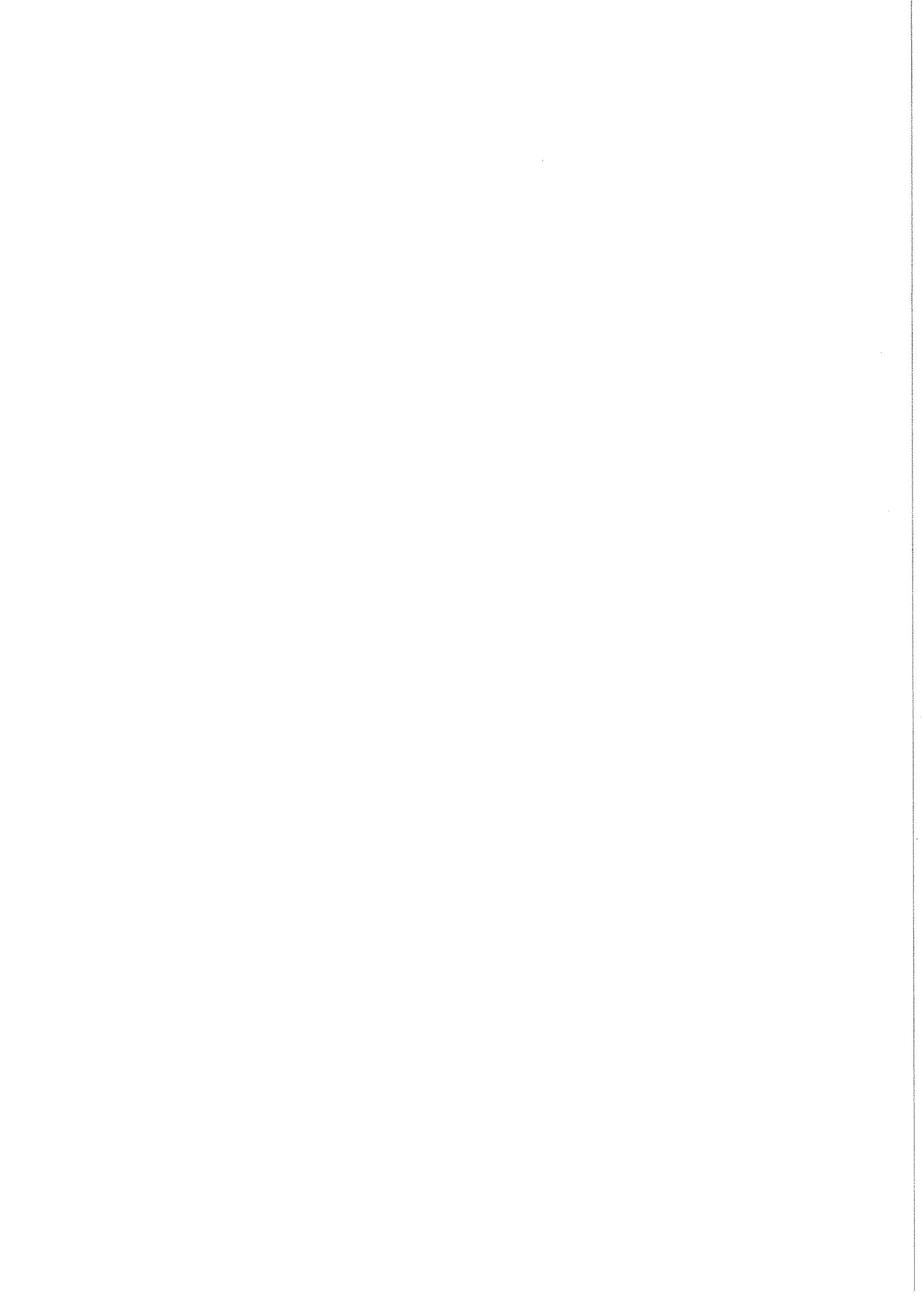
pop	Port name	Community Served	Port location	Port Category	Port Suitability	Regulatory Authority	Infrastructure
4033001	WEPIA		APPROX 123 NAUTICAL MILES 5TH CAPE YORK	MAJOR	TRADING	HARBOLRS CORP OF OLD	4 WHARVES, CONCRETE BARGE RAMP(1)
2081000	CAPE FLATTERY		APPROX 31 NAUTICAL MILES NTH OF COOKTOWN	MAJOR	TRADING	HARBOLRS CORP OF OLD	TRAVELLING SHIP LOADER BERTH 230M WHARF 190M
4007001	COOKTOWN	FORMPURAAW(1)	APPROX 92 NAUTICAL MILES NORTH OF CAIRNS	MINOR	TOURISM, FISHING	HARBOLRS CORP OF OLD	WHARF(1)
2121000		HAMMOND ISLAND(1)			WET SEASON ONLY(1)		CONCRETE BARGE RAMP(1)
4048001	MASSAU						FINGER PEIR AT COMMUNITY EDGE(1)
4047002	CAPE YORK		APPROX 328 NAUTICAL MILES NORTH OF COOKTOWN	POTENTIAL			
3106001	TURTLE HEAD ISLAND		APPROX 310 NAUTICAL MILES NORTH OF COOKTOWN	POTENTIAL			
4048001	SHADWELL POINT		APPROX 309 NAUTICAL MILES NORTH OF COOKTOWN	POTENTIAL			
4045001	PENNEFAHER RIVER		APPROX 104 NAUTICAL MILES SOUTH OF CAPE YORK	POTENTIAL			
4044001	PORT MUSGRAVE		APPROX 84 NAUTICAL MILES SOUTH OF CAPE YORK	LOW POTENTIAL			
4042001	SKARDON RIVER		APPROX 79 NAUTICAL MILES SOUTH OF CAPE YORK	POTENTIAL			
2122000	AJUKUN		APPROX 188 NAUTICAL MILES SOUTH OF CAPE YORK	POTENTIAL			CONCRETE BARGE RAMP
4043001	CAPE WEMYOUTH		APPROX 200 NAUTICAL MILES NORTH COOKTOWN	MEDIUM POTENTIAL			
4043001	TEMPLE BAY		APPROX 227 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
1081001	CAPE GREENVILLE		APPROX 240 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
4041001	ROUND POINT		APPROX 185 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
4040001	CAPE DIRECTION		APPROX 242 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
4039001	MARGARET BAY		APPROX 250 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
1082001	SHELBURNE BAY		APPROX 19 NAUTICAL MILES WEST CAPE MELVILLE	MEDIUM POTENTIAL			
4037001	CAPE MELVILLE		APPROX 78 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL			
4038001	BARROW POINT		APPROX 201 NAUTICAL MILES NORTH COOKTOWN	POTENTIAL	ALL WEATHER ANCHORAGE		
4027001	PORTLAND ROADS		APPROX 124 NAUTICAL MILES SOUTH COOKTOWN	DECLARED PORT		HARBOLRS CORP OF OLD	
4029001	PORT STEWART		APPROX 20 NAUTICAL MILES NORTH WEST CAPE YORK	POTENTIAL		HARBOLRS CORP OF OLD	WHARF, LETTY, GOLD COPPER BARGE RAMP
3038001	HORN ISLAND		APPROX 11 NAUTICAL MILES WEST OF CAPE DIRECTION	POTENTIAL			WHARF, CONCRETE BARGE RAMP (1)
4031001	THURSDAY ISLAND		APPROX 18 NAUTICAL MILES SOUTH CAPE YORK	POTENTIAL			WHARF, CONCRETE BARGE RAMP
4003002	RED ISLAND POINT	BAMAGI, INLIKO, UMAGICO, SEISA, NEW MAPOON	APPROX 11 NAUTICAL MILES WEST OF CAPE DIRECTION	POTENTIAL			
4018001	QUINTILL BEACH		APPROX 168 NAUTICAL MILES NORTH OF COOKTOWN	POTENTIAL			
4048001	BOBARDT POINT						

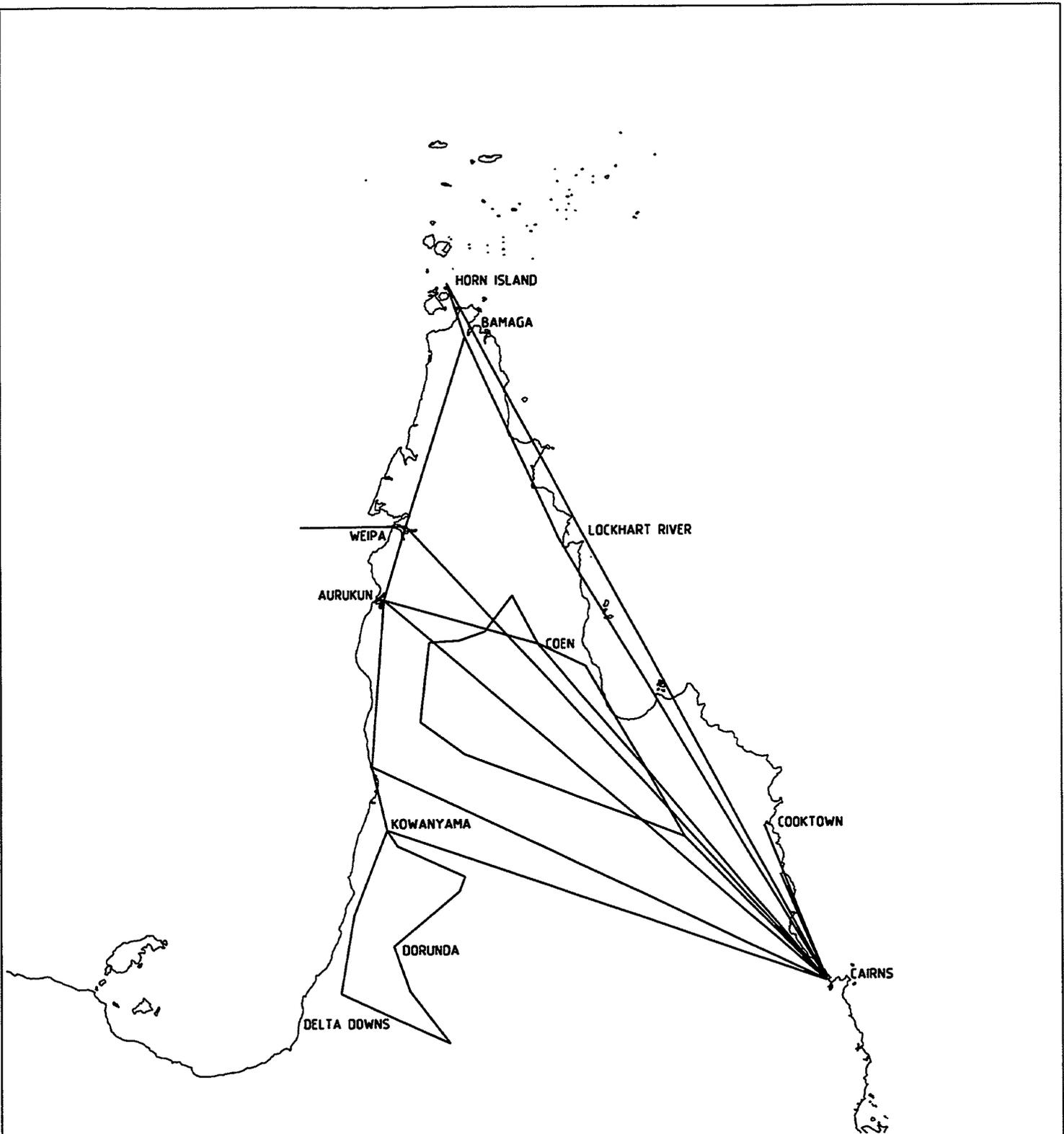
prop	Port name	Facilities		Rd length	Road		Access			Mth open	Use	Operators	
		Available	Access		Lq sealed	Lq gravel	Lq formed	Lq uniform					
4033001	WEIPA	BANKS, PHONES, GROCERIES...		0.5(1)		0	0.5(1)		0	0	12	EXPORT/FREIGHT	GULF FREIGHT(1)
2081000	CAPE FLATTERY	FRESHWATER, PHONES	BEACH APPROX 20KM	2.0(2)		0	2.0(2)		0	0	0	FREIGHT	
4007001	COOKTOWN	FOOD, ACCOM, PHONES, BANKS..		0		0			0	0	0	TOURISM, FISHING	
2121000			ROAD(1)	3.0(1)				3.0(1)			12	FREIGHT(1)	WILSON ENG. KARUMBA (1)
3031001			ROAD	1.0(1)			1.0(1)				12	FREIGHT(1)	BRING IN OWN GOODS(1)
4048001	NASSAU										0		
4047002	CAPE YORK	WATER, PHONE, ACCOMODATION	ROAD								0		
3109001	TURTLE HEAD ISLAND	LIGHT AIRCRAFT AERODROME	NO ROAD ACCESS								0		
4048001	SHADWELL POINT	NONE	VEHICLE TRACKS								0		
4045001	PENNEFATHER RIVER	NONE	NO ROADS LINK AREA								0		
4044001	PORT MJSGRAVE	MAPOON COUNCIL	VEHICLE TRACKS								0		
4042001	SKARDON RIVER	NONE	NO ROADS TO AREA								0		
2122000	AURUKUN	AURUKUN	ROAD	3.5			3.5				0	FREIGHT	GULF FREIGHT
4043001	CAPE WEYMOUTH	NONE	NO ROADS TO AREA								0		
4043001	TEMPLE BAY	NONE	NO ROADS TO AREA								0		
1091001	CAPE GRENWILLE	NONE	NO ROADS TO AREA								0		
4041001	ROUND POINT										0		
4040001	CAPE DIRECTION	NONE	NO ROADS TO AREA								0		
4038001	MARGARET BAY	NONE	NO ROADS TO AREA								0		
1082001	SHEL BURNE BAY	NONE	NO ROADS TO AREA								0		
1138002	BATHURST HEAD	NONE	VEHICLE TRACK								0		
4037001	CAPE MELVILLE										0		
4038001	BARROW POINT	NONE	NO ROADS TO AREA								0		
4027001	PORTLAND ROADS	PHONE, MAIL, WATER ETC	PORTLAND ROAD								0		
4034001	BLOOMFIELD RIVER	STORE, PHONE - AYTON	COASTAL ROAD								0		
4028001	PORT STEWART	NONE	TRACK LINK TO COEN								0		
3038001	HORN ISLAND		HORN IS. ROAD SYSTEM								0	FREIGHT	SEASWIFT
4031001	THURSDAY ISLAND	THURSDAY ISLAND	ROADS								0	FREIGHT	SEASWIFT & JARDINE
4003002	RED ISLAND POINT		ROAD(1)	1.0(1)			Y(1)		Y(1)		12	FREIGHT(1)	SEASWIFT & JARDINE (1)
4018001	QUINTELL BEACH	LOCKHART RIVER COMMUNITY	ROAD	4.5			4.5				0	FREIGHT	SEASWIFT
4049001	BOBARDY POINT										0		

prop	Port name	Freight class	Freight Ton	District Served	Flood	Ck name	Road Ls sand	Access Mel hole	Swamp ar	Slip ar	Data sourc	Data att
4033001	WEIPA	GENERAL,BUILDING MATERIALS,FUEL(1)	APP 80,000(2)		N(1)						NAPRANUM ABORIG. COUN.(1), PORTS CORP QLD(2)	
2081000	CAPE FLATTERY	GENERAL,BUILDING MATERIALS,MINING EQ(2)	APP 1.8M								PORTS CORP QLD(2)	
4007001	COOKTOWN	ALL FREIGHT BY ROAD(1)	0								COOK SHIRE COUNCIL(1)	
2121000		GENERAL,BUILDING MATERIALS,FUEL (1)	APP 4200	YES(1)	N(1)						PORMPURAAW ABORIGINAL COUN.(1), GULF FREIGHT	
3031001		GENERAL,BUILDING MATERIALS,FUEL(1)	8-10MTH(1)		N(1)				Y(1)		HAMMOND ISLAND COUNCIL(1)	
4048001	NASSAU											
4047002	CAPE YORK											
3108001	TURTLE HEAD ISLAND											
4048001	SHADWELL POINT											
4045001	PENNEFATHER RIVER											
4044001	PORT MUSGRAVE											
4042001	SKARDON RIVER											
2122000	AURUKUN	GENERAL,BUILDING MATERIALS,FUEL(1)	3000								AURUKUN SHIRE COUNCIL	
4043001	CAPE WEYMOUTH											
4043001	TEMPLE BAY											
1091001	CAPE GRENVILLE											
4041001	ROUND POINT											
4040001	CAPE DIRECTION											
4039001	MARGARET BAY											
1082001	SHELBURNE BAY											
1138002	BATHURST HEAD											
4037001	CAPE MELVILLE											
4038001	BARROW POINT											
4027001	PORTLAND ROADS											
4034001	BLOOMFIELD RIVER											
4028001	PORT STEWART											
3038001	HORN ISLAND		APP. 8000								SEASWIFT, JARDINE & HARBOURS CORP.	
4031001	THURSDAY ISLAND	GENERAL BUILDING MATERIALS (1)	APP 4000								JARDINE, SEASWIFT	
4003002	RED ISLAND POINT	GENERAL BUILDING MATERIALS (1)	APP 2000		N(1)		Y(1)			Y(1)	NEW MAPOON ABORIGINAL COUNCIL(1)	
4018001	QUINTELL BEACH		APP. 8000		Y						LOCKHART RIVER COUNCIL, SEASWIFT, HARBOURS CORP	
4049001	BOBARDY POINT											

**APPENDIX C-4**

**GIS DATA AIR ROUTES**



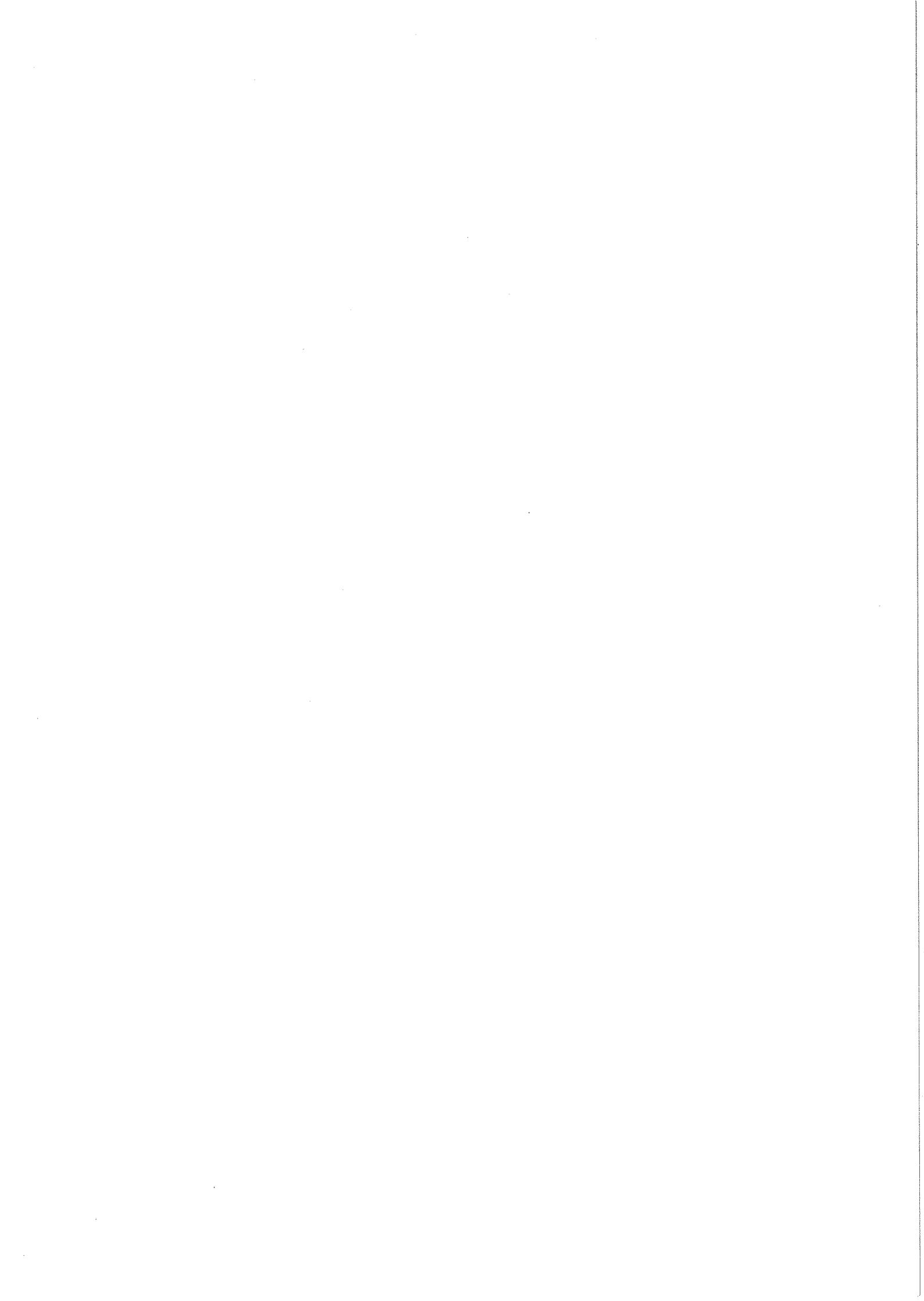


SCALE 1 : 500000

**CYPLUS  
GIS DATA  
AIR ROUTES**



SEPT 94



DATA GROUP: AIROUTES

=====

DESCRIPTION OF DATA:

=====

Air transport is a major transport mode throughout Cape York Peninsula because of long distances, roads not being opened all year round and the unavailability of road transport to many residents of aboriginal communities. Airroutes shows the origin and destinations of scheduled air services and not necessarily the flight path. The data is structured as lines.

CONTENT OF DATA:

=====

NUMBER OF LAYERS: 5

LAYER NAME	SPACIAL FEATURES	DATA STRUCTURE
Route	Polyline	Char(10)
Depart		Char(25)
Arrive		Char(25)
Frequency		Char(10)
Remarks		Char(20)

RELATED FILES:

=====

Airports - Airport Nodes connected by routes

LIST AND DESCRIPTION OF SPATIAL FEATURES

=====

Route - Diagramatric path taken by plane (May not be correct flight path)

NON SPATIAL FIELD NAME DECRPTIONS

=====

- Depart - Airport/Airfileld at start of flight leg
- Arrive - Airport/Airfields at end of flight leg
- Frequency - Number of flights per week
- Remarks - Flight Characteristics (Eg Charter, Enroute stops)

COVERAGE - AIROUTES.QAL

=====

LINEAGE

=====

Field Name	Information obtained from:
-----	-----
Route	- Queensland Transport GIS / Service Operators
Depart	- Queensland Transport GIS / Service Operators
Arrive	- Queensland Transport GIS / Service Operators
Frequency	- Aerodrome Operator / Service Operators
Remarks	- GHD

POSITIONAL ACCURACY

=====

Flight paths are purely diagrammatic only. Sequence of landings shown.

ATTRIBUTE ACCURACY

=====

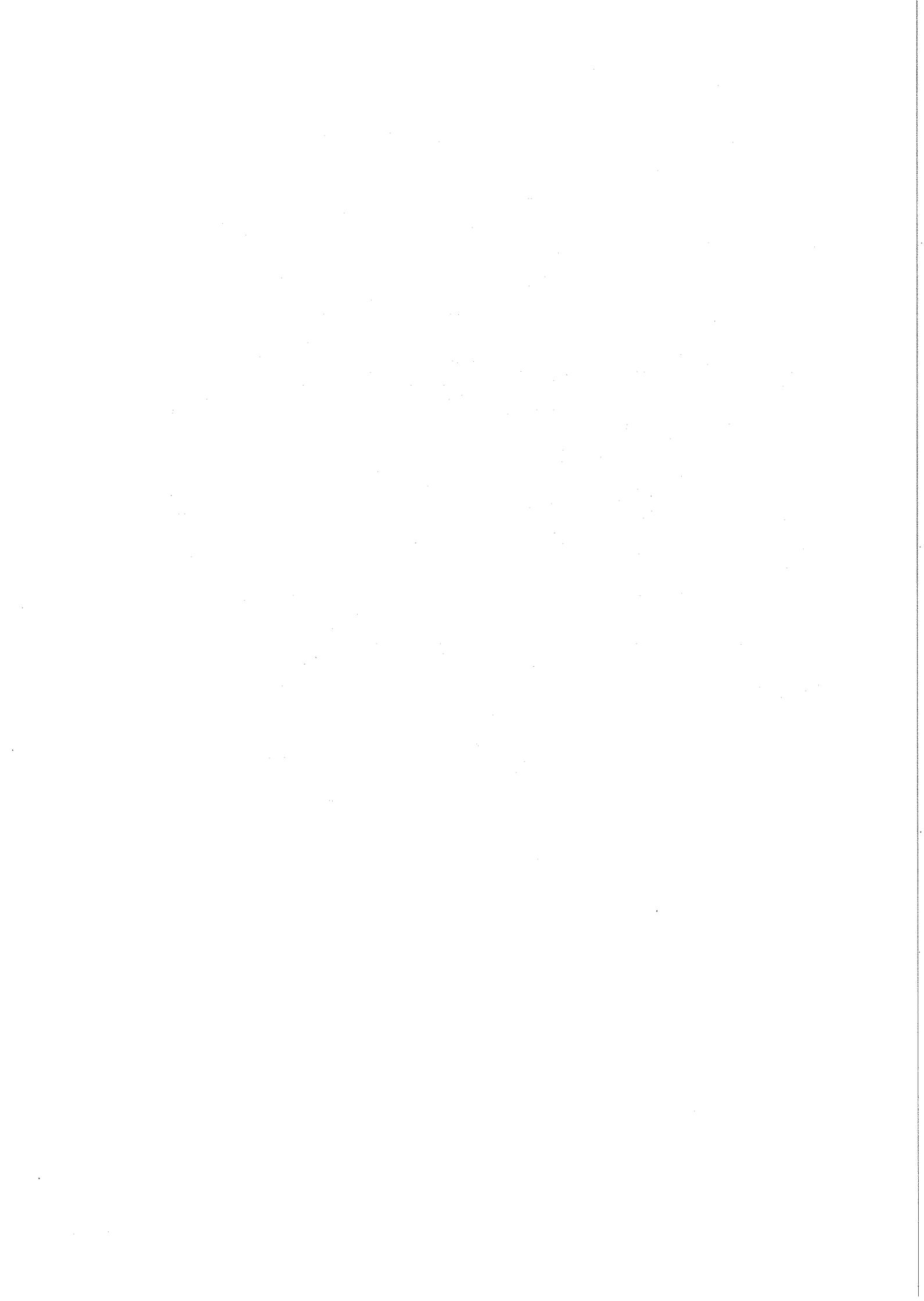
Correct as of September 1994

LOGICAL CONSISTENCY

=====

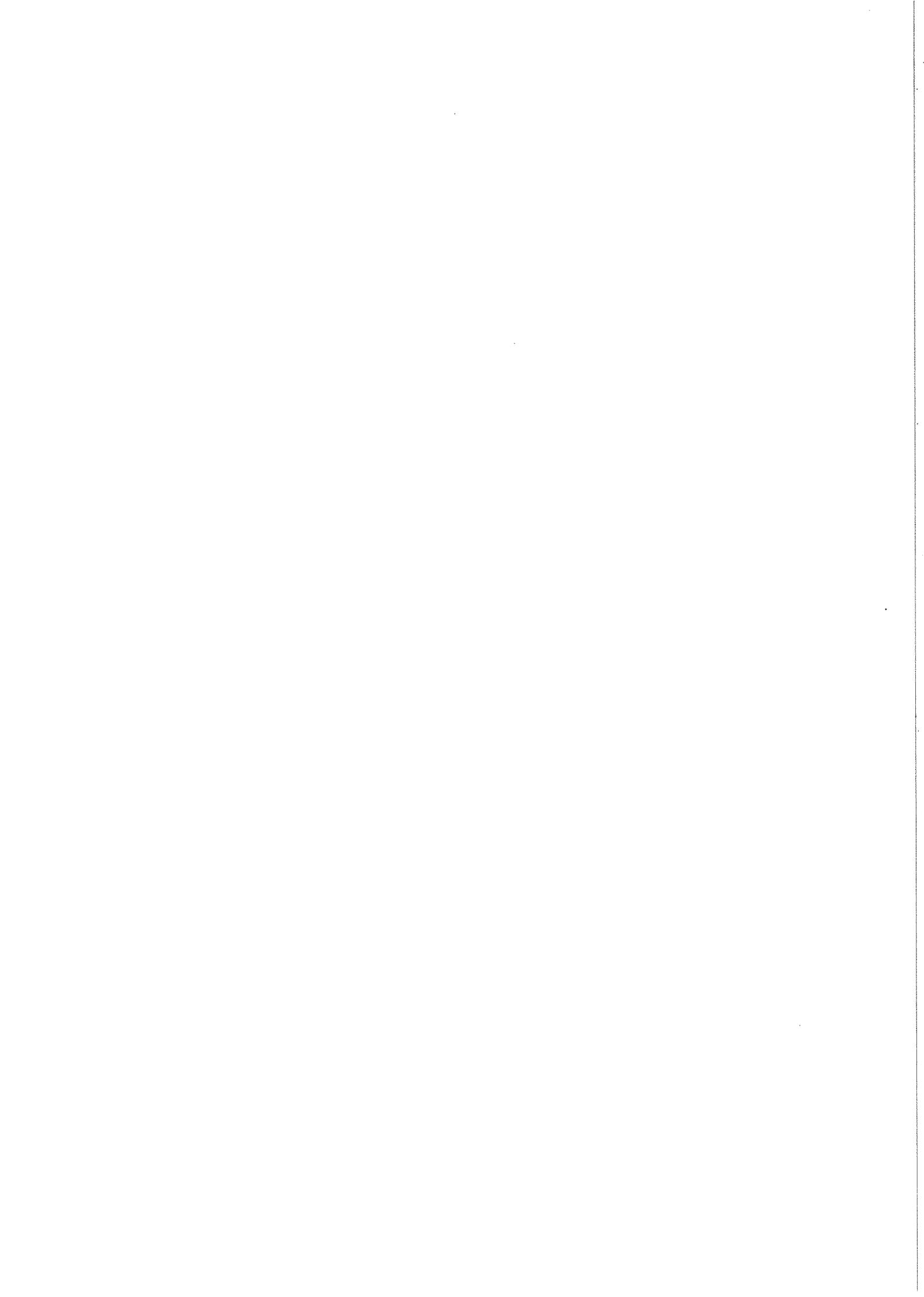
Shows only specific mail services. Services by barge or schedule air services not shown.

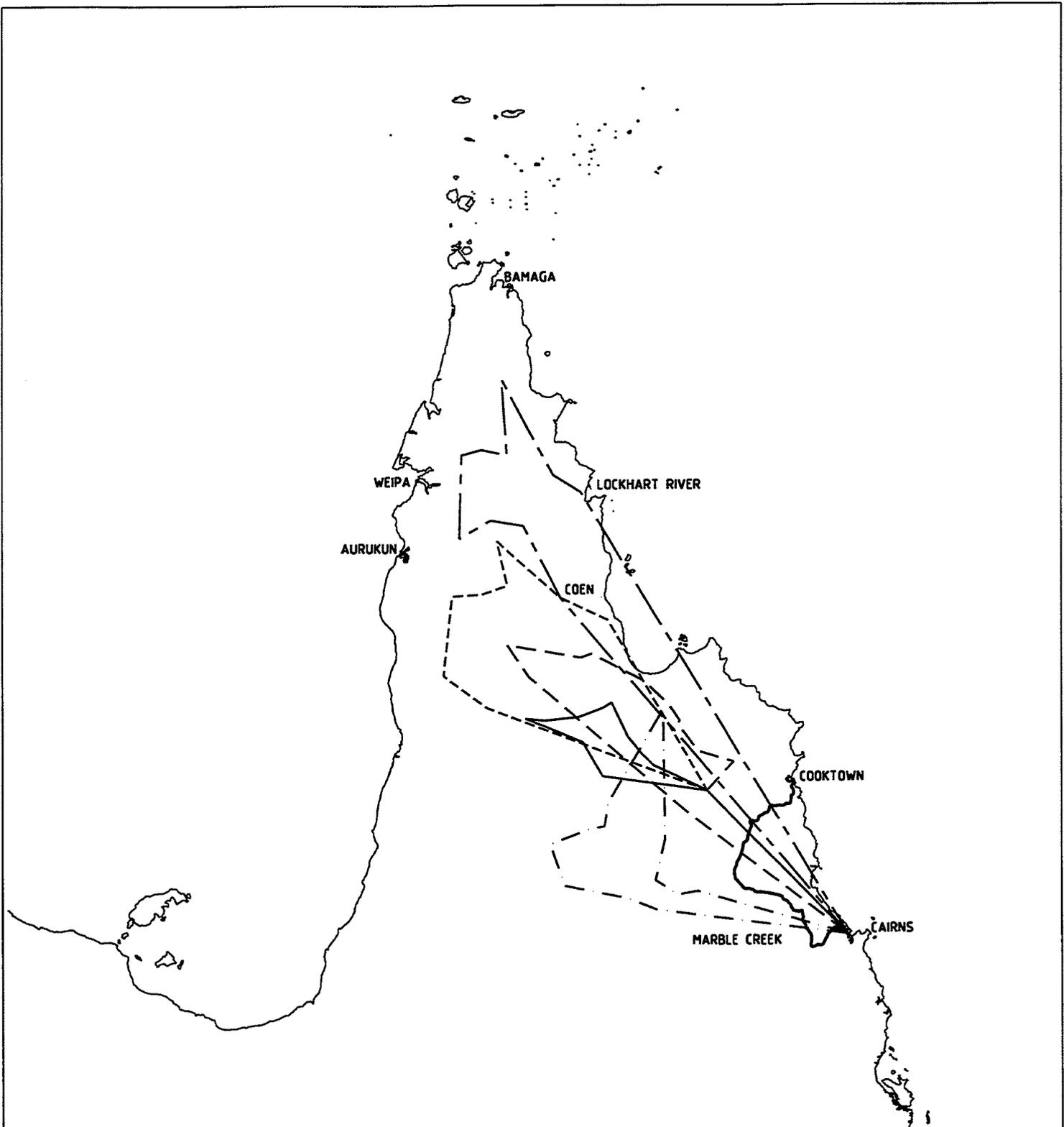
<u>ROUTE</u>	<u>DEPART</u>	<u>ARRIVE</u>	<u>FREQUENCY</u>	<u>REMARKS</u>
OPEN1	CAIRNS	KOWANYAMA	4	
OPEN7	KOWANYAMA	PORMPURA AW	3	
OPEN8	PORMPURA AW	AURUKUN	0	CHARTER ONLY
OPEN3	CAIRNS	AURUKUN	3	
OPEN4	CAIRNS	COEN	2	
OPEN9	COEN	AURUKUN	0	CHARTER ONLY
OPEN10	AURUKUN	WEIPA	0	CHARTER ONLY
OPEN11	DARWIN/GROOTE IS	WEIPA	5	
OPEN012	WEIPA	BAMAGA	2	
OPEN14	BAMAGA	HORN ISLAND	2	
OPEN5	CAIRNS	LOCKHART RIVER	6	
OPEN13	LOCKHART RIVER	BAMAGA	4	
REGD2	CAIRNS	HORN ISLAND	5	
OPEN6	CAIRNS	COOKTOWN	12	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS02	CAIRNS/SILVER PLAINS	COEN	0	
RASS02	CAIRNS/SILVER PLAINS	COEN	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS2	COEN/SOUTHWELL	CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
RASS1	CAIRNS/DORUNDA	KOWANYAMA/CAIRNS	0	
REGD01	WEIPA	CAIRNS	7	
OPEN01	KOWANYAMA	CAIRNS	1	
OPEN06	COOKTOWN	CAIRNS	12	
OPEN02	PORMPURA AW	CAIRNS	3	
OPEN03	AURUKUN	CAIRNS	3	
REGD1	CAIRNS	WEIPA	7	
OPEN05	LOCKHART RIVER	CAIRNS	6	
REGD02	HORN ISLAND	CAIRNS	6	
OPEN013	BAMAGA	LOCKHART RIVER	1	
OPEN014	HORN ISLAND	BAMAGA	6	
OPEN012	BAMAGA	WEIPA	7	
OPEN011	WEIPA	DARWIN/GROOTE ISLAND	7	
OPEN010	WEIPA	AURUKUN	3	
OPEN08	AURUKUN	PORMPURA AW	0	CHARTER ONLY
OPEN07	PORMPURA AW	KOWANYAMA	1	
RASS02	CAIRNS/SILVER PLAINS	COEN	0	
OPEN15	CAIRNS	BLOOMFIELD	5	
OPEN 16	BLOOMFIELD	CAIRNS	5	



**APPENDIX C-5**

**GIS DATA MAIL**



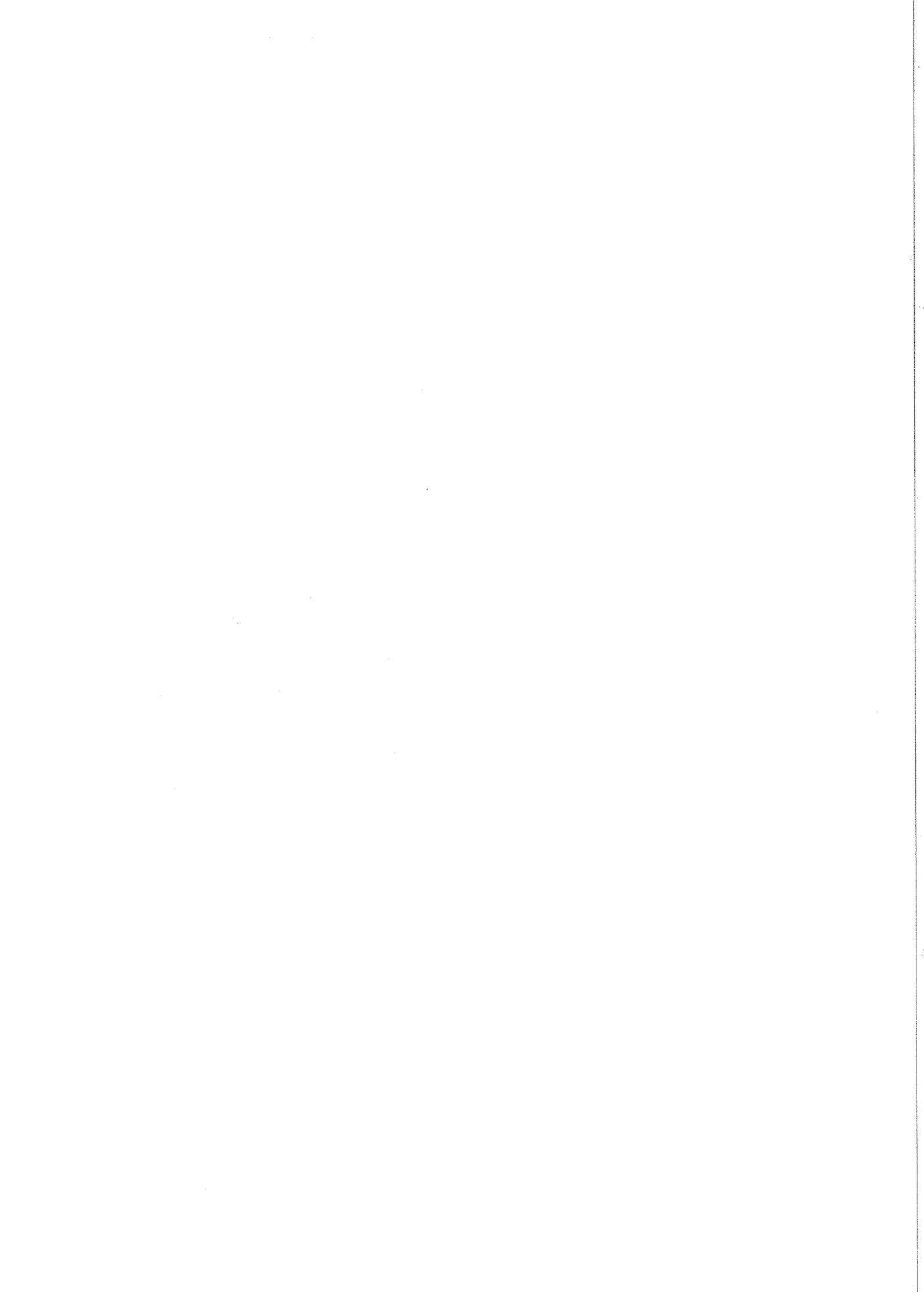


SCALE 1 : 500000

**CYPLUS  
GIS DATA  
MAIL SERVICE  
ROUTES**



SEPT 94



DATA GROUP: MAILSERV  
=====

DESCRIPTION OF DATA:  
=====

Air Mail services are provided by Queensland Transport via private operators. Other mail services are provided via road by Australia Post on scheduled flights and barge services. MAILSERV shows those dedicated mail services by private operators and Australia Post. Services provided by barge or scheduled air services are not included. This data is structured as lines.

CONTENT OF DATA:  
=====

NUMBER OF LAYERS: 3

LAYER NAME	SPACIAL FEATURES	DATA STRUCTURE
Mail_Service_No	Mail Routes	Integer
Day_of_Service		Char(10)
Mode_of_Transport		Char(20)

RELATED FILES:  
=====

Airports - Airport nodes (so as to show Airports connected)

LIST AND DESCRIPTION OF SPATIAL FEATURES  
=====

Mail Routes - Diagramatic path taken by plane (May not be correct flight pat

NON SPATIAL FIELD NAME DECRPTIONS  
=====

Mail\_Service\_No - Mail service number as supplied by Australia Post  
Day\_of\_Service - Day of mail service to township  
Mode\_of\_Transport - Method of delivery to township

COVERAGE - MAILSERV.QAL

=====

LINEAGE

=====

Field Name	Information obtained from:
-----	-----
Mail_Service_No	- Australia Post / Cape York Air Services
Day_of_Service	- Australia Post / Cape York Air Services
Mode_of_Transport	- Australia Post / Cape York Air Services

POSITIONAL ACCURACY

=====

Flight paths are purely diagramatic only. Sequence of landings shown.

ATTRIBUTE ACCURACY

=====

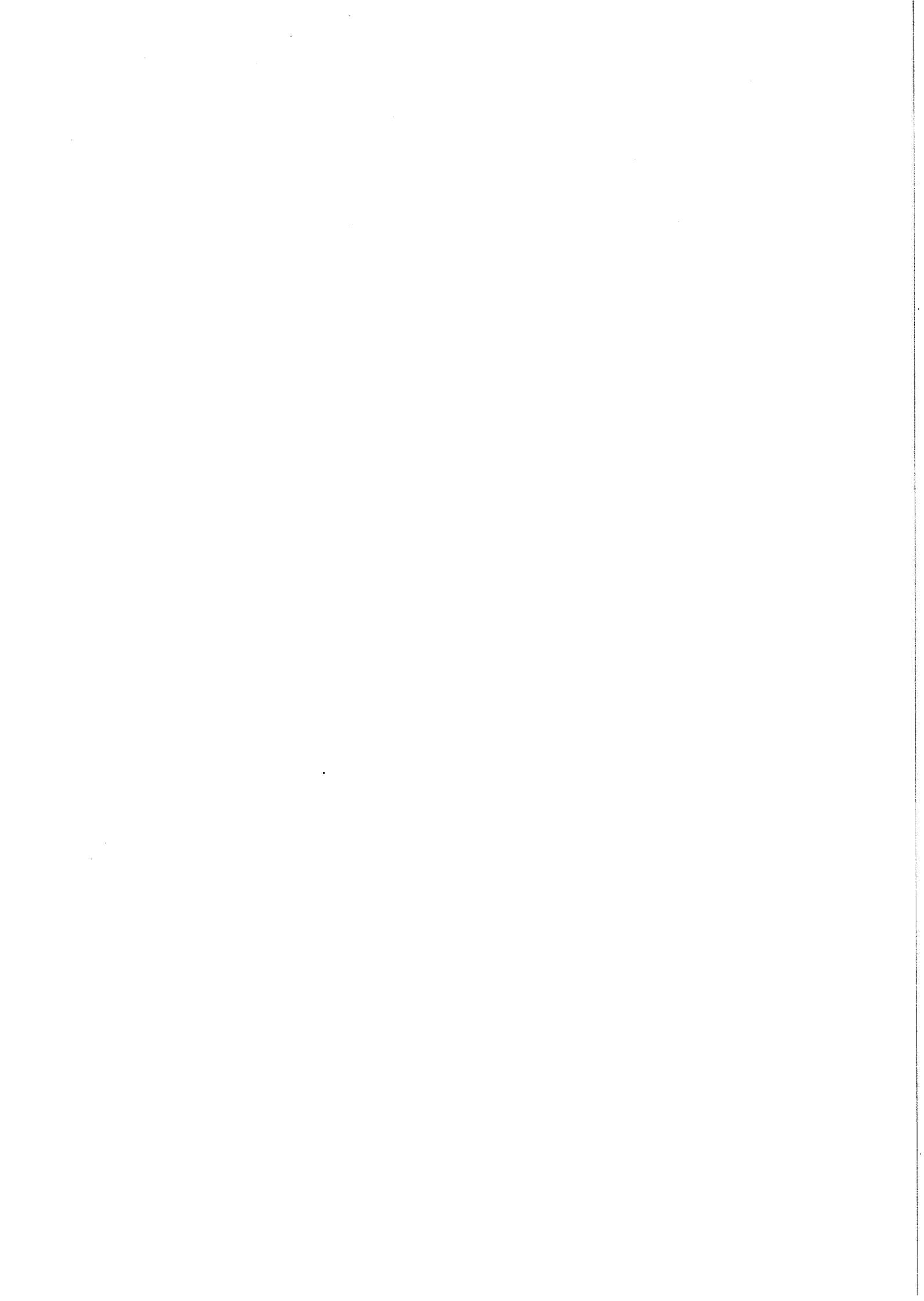
Correct as of September 1994

LOGICAL CONSISTENCY

=====

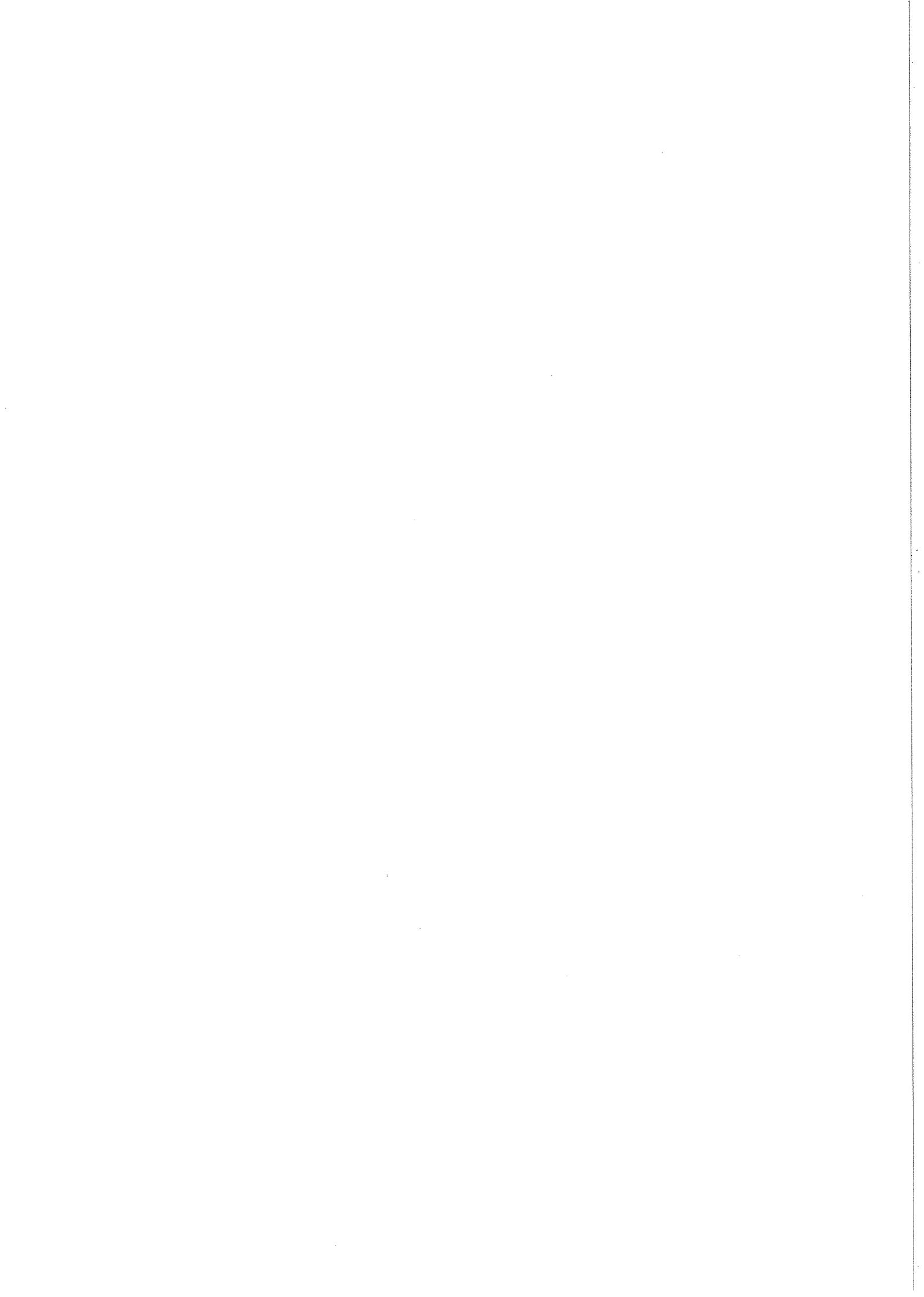
Shows only specific mail services. Services by barge or schedule air services not shown.

Mail_Service_No	Day_of_Service	Mode_of_Transport
1107	MONDAY	PLANE
1901	TUESDAY	PLANE
1900	WEDNESDAY	PLANE
1885	THURSDAY	PLANE
1860	FRIDAY	PLANE
0	DAILY	ROAD



**APPENDIX D**

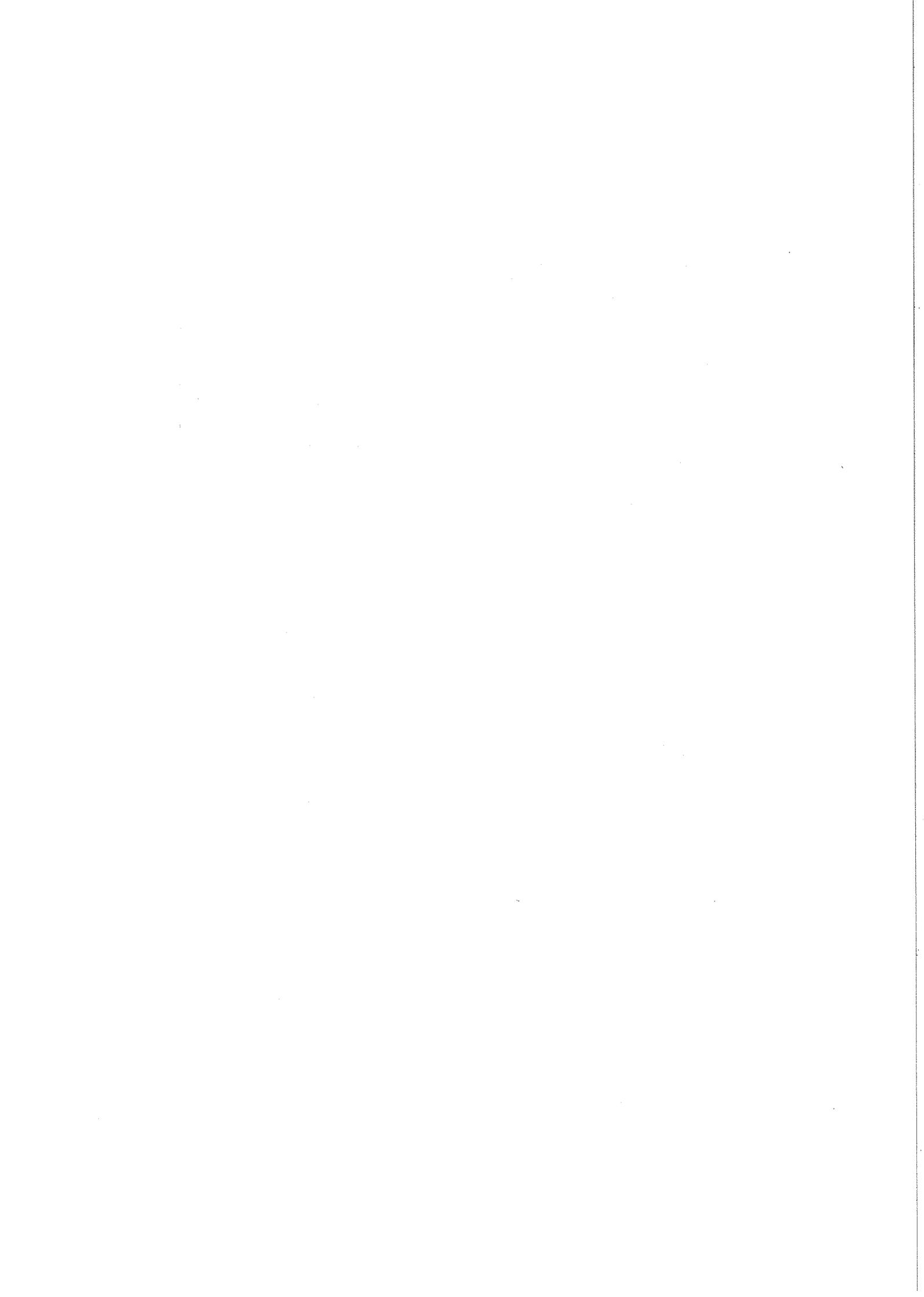
**Summary of Priorities of Aboriginal Councils**



**TABLE 1**  
**INFRASTRUCTURE PRIORITIES OF REMOTE COUNCILS**

Local Authority and Aboriginal/Torres Strait Islander Council	Improve Aerodrome		Improve Access to Aerodrome		Improve Landing		Improve Access to Landing		Improve Access to Regional Roads	
	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority
Aurukun	2	2	5	5	1	1	4	4	3	3
Seisia Island	4		3		5	3	2	1	1	2
Injinoo	4	4	2	2	5	5	1	1	3	3
Torres	1	1	1	1	2	2	5	5	2	2
Marpuna	2	2	5	5	3	3	4	3	1	1
Wujal Wujal	3	3	2	2					1	1
Lockhart River	4	2	3	3	2	4	5	5	1	1
Bamaga Island	4		2	2	5	1	1	1	3	3
Porpuraaw	5	5	5	5	2	2	5	5	1	1
Umagico	4	4	2	2	5	5	1	1	3	3
Kowanyama									1	1
Napranum	5	5	5	5	3	3	1	1	5	5
Hammond Island	4	4	4	4						
New Mapoon	1	1	3	1	1	1	1	1	1	1
<b>Number Responded</b>	<b>13</b>	<b>11</b>	<b>13</b>	<b>12</b>	<b>11</b>	<b>10</b>	<b>11</b>	<b>11</b>	<b>13</b>	<b>13</b>
<b>Average Priority</b>	<b>3.3</b>	<b>3.0</b>	<b>3.2</b>	<b>3.1</b>	<b>3.1</b>	<b>2.9</b>	<b>2.7</b>	<b>2.5</b>	<b>2.0</b>	<b>2.1</b>

**PRIORITY 1 : CRITICAL**  
**PRIORITY 5 : NOT IMPORTANT**

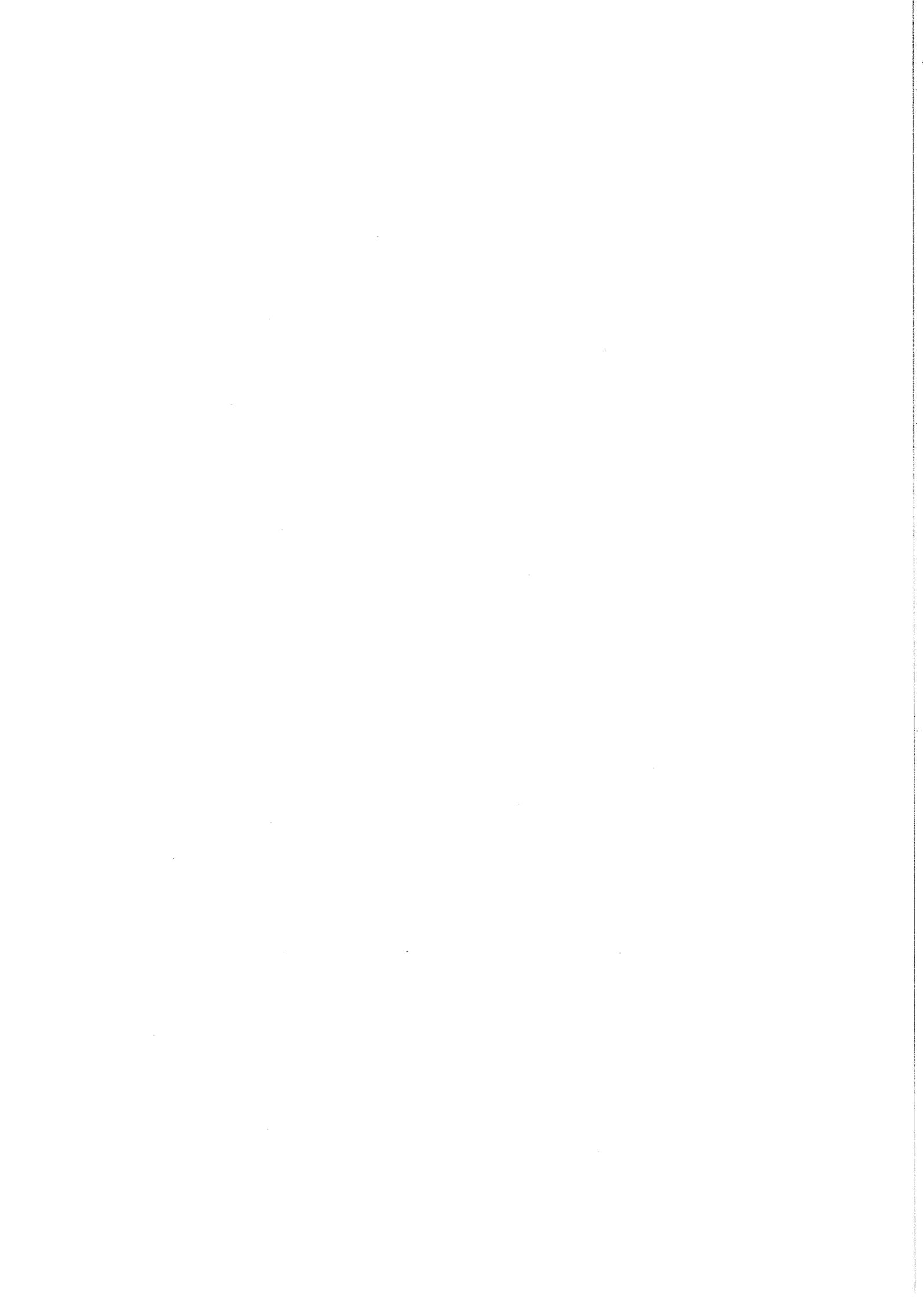


**TABLE 2  
INFRASTRUCTURE PRIORITIES OF REMOTE COUNCILS**

PRIORITY RATING OMITTED WHERE EXISTING INFRASTRUCTURE SATISFIES NEED VIZ PRIORITY 5

Local Authority and Aboriginal/Torres Strait Islander Council	Improve Aerodrome		Improve Access to Aerodrome		Improve Landing		Improve Access to Landing		Improve Access to Regional Roads	
	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority
Aurukun	2	2			1	1	4	4	3	3
Seisia Island	4		3		5	3	2	1	1	2
Injinoo	4	4	2	2			1	1	3	3
Torres	1	1	1	1	2	2			2	2
Marpuna	2	2			3	3	4	3	1	1
Wujal Wujal	3	3	2	2					1	1
Lockhart River	4	2	3	3	2	4			1	1
Bamaga Island	4		2	2			1	1	3	3
Pormpuraaw					2	2			1	1
Umagico	4	4	2	2			1	1	3	3
Kowanyama									1	1
Napranum					3	3	1	1		
Hammond Island	4	4	4	4						
New Mapoon	1	1	3	1	1	1	1	1	1	1
Number Responded	11	9	9	8	7	8	8	8	12	12
Average Priority	3.0	2.6	2.4	2.1	2.7	2.4	1.9	1.6	1.8	1.8

PRIORITY 1 : CRITICAL  
PRIORITY 5 : NOT IMPORTANT

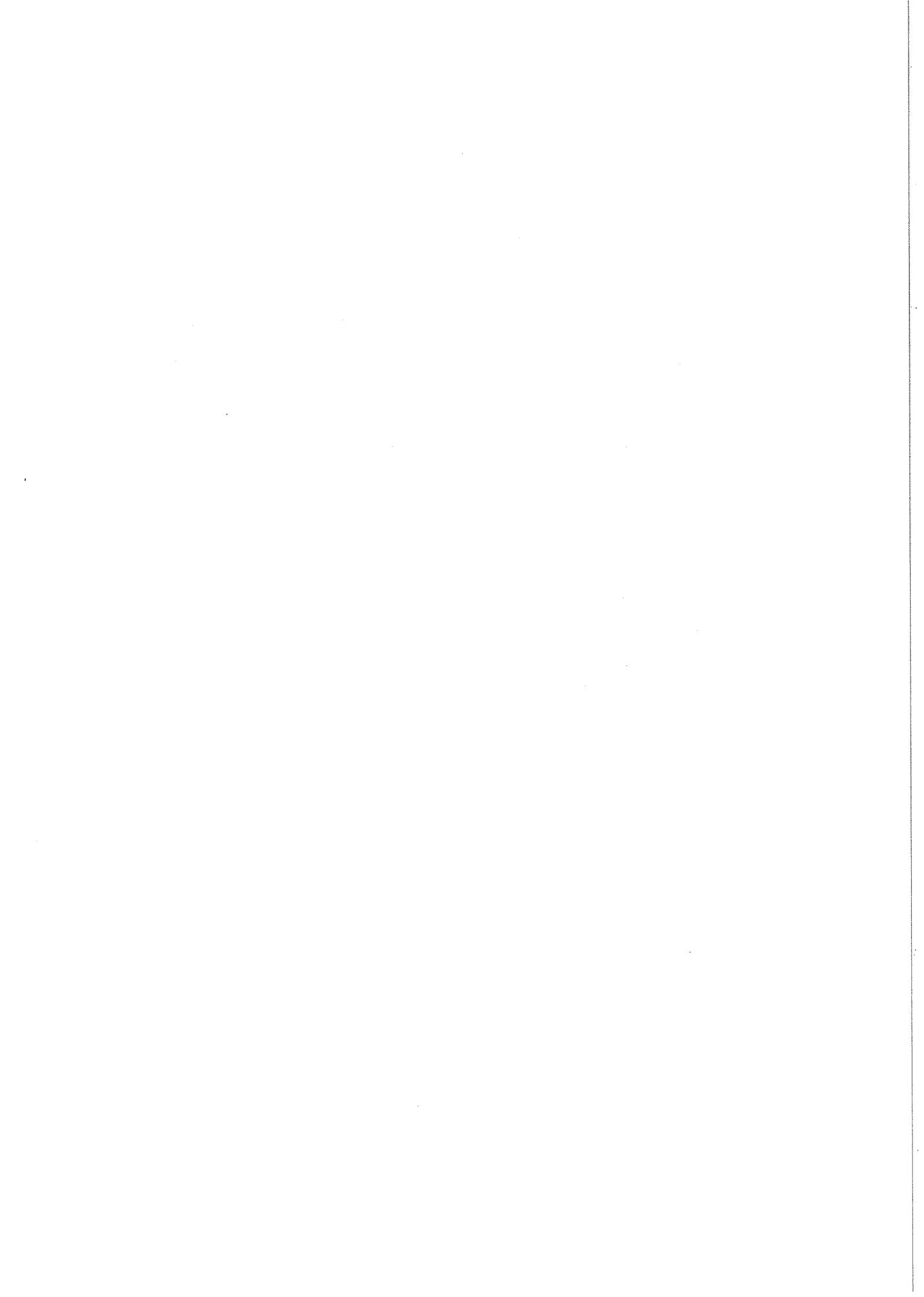


**TABLE 3  
INFRASTRUCTURE PRIORITIES OF REMOTE COUNCILS**

WHERE EXISTING INFRASTRUCTURE BASICALLY ADEQUATE VIZ. PRIORITIES 4 5 OMITTED

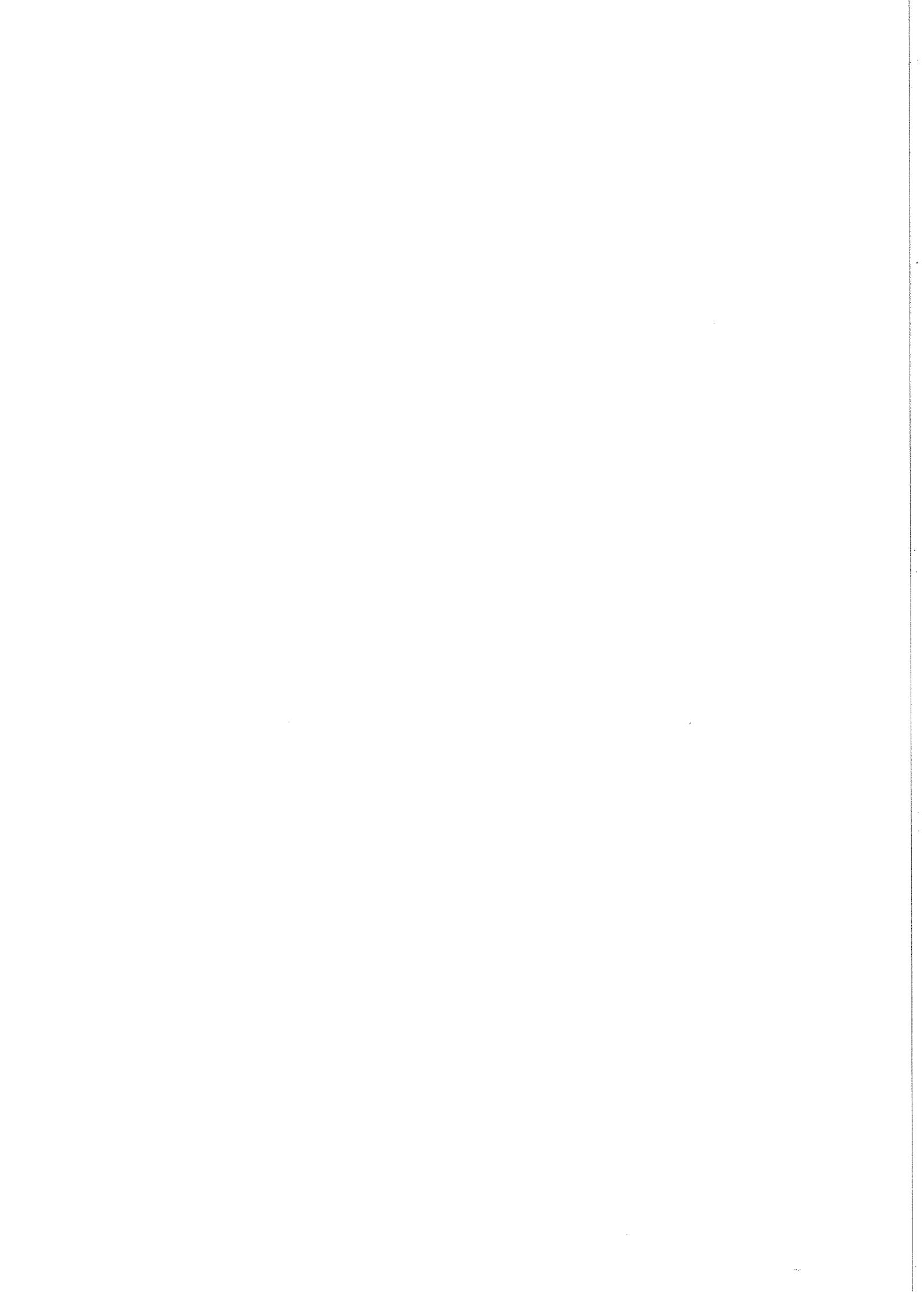
Local Authority and Aboriginal/Torres Strait Islander Council	Improve Aerodrome		Improve Access to Aerodrome		Improve Landing		Improve Access to Landing		Improve Access to Regional Roads	
	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority	Need Priority	Funding Priority
Aurukun	2	2			1	1			3	3
Seisia Island			3			3	2	1	1	2
Injinoo			2	2			1	1	3	3
Torres	1	1	1	1	2	2			2	2
Marpuna	2	2			3	3		3	1	1
Wujal Wujal	3	3	2	2					1	1
Lockhart River		2	3	3	2				1	1
Bamaga Island			2	2			1	1	3	3
Pormpuraaw					2	2			1	1
Umagico			2	2			1	1	3	3
Kowanyama									1	1
Napranum					3	3	1	1		
Hammond Island										
New Mapoon	1	1	3	1	1	1	1	1	1	1
Number Responded	5	6	8	7	7	7	6	7	12	12
Average Priority	1.8	1.8	2.3	1.9	2.0	2.1	1.2	1.3	1.8	1.8

PRIORITY 1 : CRITICAL  
PRIORITY 5 : NOT IMPORTANT



## **APPENDIX E**

### **Value Needs and Aspirations Survey Responses**



**CAPE YORK PENINSULA LAND USE STRATEGY  
LAND USE PROGRAM  
REPORT ON TRANSPORT SERVICES AND INFRASTRUCTURE  
VALUE NEEDS AND ASPIRATIONS SURVEY TRANSPORT RESPONSES**

**Cooktown Area Region 3**

**\* Supplies of Food and Household Items**

Community Store	2 %
Cooktown	56 %
Cairns	22 %
Mareeba/Atherton	20 %

**\* How are Supplies Delivered in Dry Season**

Road Freight	36 %
Property Vehicle Pick Up Supplies	64 %

**\* Centre Rely Upon for Medical/Professional Services**

Local Community	3 %
Cooktown	55 %
Mareeba/Atherton	8 %
Cairns	28 %
Brisbane	3 %
Sydney	3 %

**\* How Do You Travel to this Centre**

Road by Car, 4WD, Truck	70 %
Road by Bus	4 %
Scheduled Air Services	15 %
Air Charter	7 %
Electric Scooter	4 %

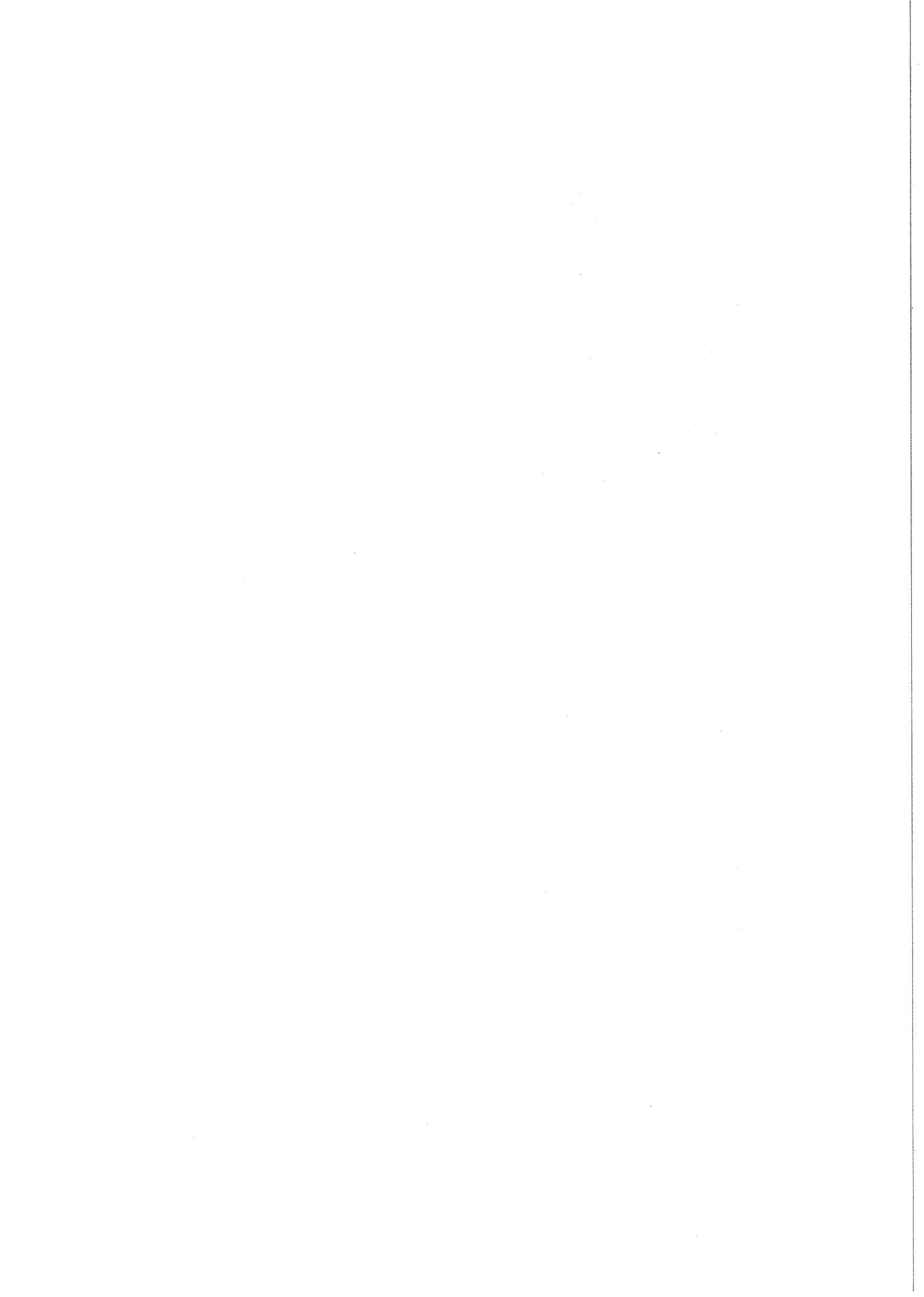
**\* Which Centre Do You Travel for Social, Cultural Activities**

Within Community	17 %
Cooktown	40 %
Cairns	30 %
Mareeba/Atherton	10 %

**\* How Do You Travel to this Centre**

Road	68 %
Air	29 %
Sea	3 %

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.



<b>* Where Travel for Recreation</b>		
Cooktown		40 %
Rivers - Annan/Endeavour		30 %
Archers Point		7 %
Wharf		15 %
Hopevale		2 %
Cape Flattery		2 %
Cairns		2 %
Mareeba/Atherton		2 %
<b>* How Do You Travel to this Recreation Centre</b>		
4WD		62 %
Sea		15 %
Conventional Vehicle		20 %
Electric Scooter		3 %
<b>* This Question Relates to the use of the following Roads:</b>		
Peninsula Developmental Road (Mareeba to Weipa)		
Bamaga Road		
Lakeland Downs to Cooktown Roads		
<b>If these roads were bitumen sealed would you:</b>	<b>Yes</b>	<b>No</b>
(i) Drive to destinations where you now fly?	82 %	18 %
(ii) Have goods delivered by road where you now use air services or private aircraft?	70 %	30 %
(iii) Would you move stock/produce by road at periods other than you do now?	50 %	50 %

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

**Cooktown Area Region 4**

<b>* Supplies of Food and Household Items</b>	
Community Store	14 %
Cooktown	36 %
Cairns	32 %
Mareeba/Atherton	9 %
Laura	9 %
<b>* How are Supplies Delivered in Dry Season</b>	
Property Vehicle Pick Up Supplies	61 %
Road Freight	33 %
By Air	6 %
<b>* Centre Rely Upon for Medical/Professional Services</b>	
Laura	10 %
Cooktown	38 %
Local Community	4 %
Cairns	30 %
Mareeba/Atherton	3 %
Wujal Wujal	15 %
<b>* How Do You Travel to this Centre</b>	
Road by Car, 4WD, Truck	63 %
Road by Bus	10 %
Scheduled Air Services	10 %
River	7 %
Walk	10 %
<b>* Which Centre Do You Travel for Social, Cultural Activities</b>	
Within Community	23 %
Cooktown	27 %
Cairns	19 %
Mareeba/Atherton	10 %
Weipa	3 %
Coen	3 %
Laura	12 %
Lakeland	3 %
<b>* How Do You Travel to this Centre</b>	
Road	73 %
Air	13 %
River	7 %

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

Walk	7 %		
<b>* Where Travel for Recreation</b>			
Reef	5 %		
Bloomfield River	25 %		
Weary Bay	8 %		
Local Community	8 %		
Cairns	8 %		
Cooktown	13 %		
Roseville	5 %		
Mareeba/Atherton	5 %		
Leader Bay	5 %		
Archers Point	5 %		
Bedford	5 %		
Laura River	8 %		
<b>* How Do You Travel to this Recreation Centre</b>			
4WD	58 %		
Sea	21 %		
River	5 %		
Conventional Vehicle	16 %		
<b>* This Question Relates to the use of the following Roads:</b>			
Peninsula Developmental Road (Mareeba to Weipa)			
Bamaga Road			
Lakeland Downs to Cooktown Roads			
<b>If these roads were bitumen sealed would you:</b>	<b>Yes</b>	<b>No</b>	
(i) Drive to destinations where you now fly?	85 %	15 %	
(ii) Have goods delivered by road where you now use air services or private aircraft?	82 %	18 %	
(iii) Would you move stock/produce by road at periods other than you do now?	70 %	30 %	
<b>* Area in Which You Reside</b>			
2 returns - Laura and within approximately 50 km radius.			
13 returns - Cooktown and within approximately 50 km radius.			

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

**Hopevale**

<b>* Supplies of Food and Household Items</b>	
Community Store	30 %
Cooktown	45 %
Cairns	15 %
Mareeba/Atherton	10 %
<b>* How are Supplies Delivered in Dry Season</b>	
Road Freight	75 %
By Air	10 %
By Sea	0 %
Property Vehicle Pick Up Supplies	15 %
<b>* Centre Rely Upon for Medical/Professional Services</b>	
Local Community	45 %
Cooktown	30 %
Mareeba/Atherton	3 %
Cairns	15 %
Brisbane	7 %
<b>* How Do You Travel to this Centre</b>	
Road by Car, 4WD, Truck	65 %
Road by Bus	5 %
Scheduled Air Services	15 %
Air Charter	0 %
Walk	15 %
<b>* Which Centre Do You Travel for Social, Cultural Activities</b>	
Within Community	50 %
Other Communities	5 %
Laura	8 %
Cooktown	20 %
Cairns	15 %
Helenvale	2 %
<b>* How Do You Travel to this Centre</b>	
Road	70 %
Air	20 %
Walk	10 %

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

\* **Where Travel for Recreation**

Cape Bedford	10 %
Elim Beach	54 %
Cape Flattery	10 %
McIvor River	15 %
Alligator Creek	5 %
Isabella Falls	2 %
Cooktown	2 %
Hopevale Beaches	2 %

\* **How Do You Travel to this Recreation Centre**

All returns use 4WD

2 returns also use conventional vehicle

\* **This Question Relates to the use of the following Roads:**

Peninsula Developmental Road (Mareeba to Weipa)

Bamaga Road

Lakeland Downs to Cooktown Roads

**If these roads were bitumen sealed would you:**

	<b>Yes</b>	<b>No</b>
(i) Drive to destinations where you now fly?	84 %	NIL %
(ii) Have goods delivered by road where you now use air services or private aircraft?	16 %	NIL %
(iii) Would you move stock/produce by road at periods other than you do now?	N/A	N/A

\* **Area in which You Reside**

Cooktown and within approximately 50 km radius	45 %
The Aboriginal Community	52 %
Laura and within approximately 50 km radius	3 %

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

**Prince of Wales Group****\* Supplies of Food and Household Items**

Thursday/Horn Island Store	81 %
Cairns	68 %
	(of which 7 use Cairns exclusively)
Townsville	5 %
Brisbane	6 %
Bamaga/Seisa	2 %

**\* How are Supplies Delivered in Dry Season**

Road Freight	3 %
By Air	13 %
By Sea	100 %
Property Vehicle Pick Up Supplies	0 %

**\* Centre Rely Upon for Medical/Professional Services**

Thursday/Horn Island	77 %
Cairns	34 %
Brisbane	3 %
Townsville	2 %

**\* How Do You Travel to this Centre**

Road by Car, 4WD, Truck	79 %
Road by Bus	0 %
Scheduled Air Services	39 %
Air Charter	2 %
Walk	8 %
Sea	8 %

**\* Which Centre Do You Travel for Social, Cultural Activities**

Thursday/Horn Island	100 %
Weipa	2 %
Brisbane	4 %
Other Communities	44 %
Cairns	21 %
Townsville	2 %
Overseas	2 %

**\* How Do You Travel to this Centre**

Road	82 %
Air	31 %
Sea	45 %

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

Walk	4 %
Bus	2 %
<b>* Where Travel for Recreation</b>	
Nearby Islands and Waters	82 %
Cairns	2 %
<b>* How Do You Travel to this Recreation Centre</b>	
Road	10 %
Air	8 %
Sea	100 %

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

**Pastoralists**

<b>* Supplies of Food and Household Items</b>		
Cairns	50 %	
Mareeba	50 %	
<b>* How are Supplies Delivered</b>		
Property Vehicle Pick Up Supplies	75 %	
Road Freight	25 % (Coen)	
<b>* Centre Rely Upon for Medical/Professional Services</b>		
Cairns	50 %	
Weipa	25 %	
Laura	25 %	
Mareeba	25 %	
<b>* How Do You Travel to this Centre</b>		
Road	100 %	
<b>* Which Centre Do You Travel for Cultural Activities</b>		
Cairns	50 %	
Coen	25 %	
Mareeba/Atherton	25 %	
Laura	25 %	
<b>* How Do You Travel to this Centre</b>		
Road	100 %	
<b>* Which Centre Do You Travel for Recreation Activities</b>		
Melsomby	25 %	
Port Stewart and Waterholes	25 %	
Laura/Port Stewart	25 %	
<b>* How Do You Travel to this Centre</b>		
Conventional Vehicles	25 %	
4WD	75 %	
<b>If these roads were bitumen sealed would you:</b>		
(i) Drive to destinations where you now fly?	Yes 50 %	No
(ii) Have goods delivered by road where you now use air services or private aircraft?	25 %	
(iii) Would you move stock/produce by road at periods other than you do now?	50 %	25 %

Pastoralists stated that they use RFDS for Medical Services

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

**Coen**

<b>* Supplies of Food and Household Items</b>		
Community Store	80 %	
Cairns	40 %	
Mareeba	40 %	
<b>* How are Supplies Delivered</b>		
Property Vehicle Pick Up Supplies	NIL	
Road Freight	100 %	
<b>* Centre Rely Upon for Medical/Professional Services</b>		
Local Community	60 %	
Cairns	60 %	
<b>* How Do You Travel to this Centre</b>		
Road	100 %	
<b>* Which Centre Do You Travel for Cultural Activities</b>		
Local Community	20 %	
Cairns	40 %	
Weipa	60 %	
Coen	40 %	
Laura	40 %	
Cooktown	20 %	
<b>* How Do You Travel to this Centre</b>		
Road	100 %	
<b>* Which Centre Do You Travel for Recreation</b>		
Port Stewart	60 %	
Rockley	20 %	
Coen	20 %	
<b>* How Do You Travel to this Centre</b>		
Conventional Vehicles	NIL	
4WD	100 %	
<b>If these roads were bitumen sealed would you:</b>	<b>Yes</b>	<b>No</b>
(i) Drive to destinations where you now fly?	100 %	
(ii) Have goods delivered by road where you now use air services or private aircraft?	40 %	
(iii) Would you move stock/produce by road at periods other than you do now?	20 %	NIL

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

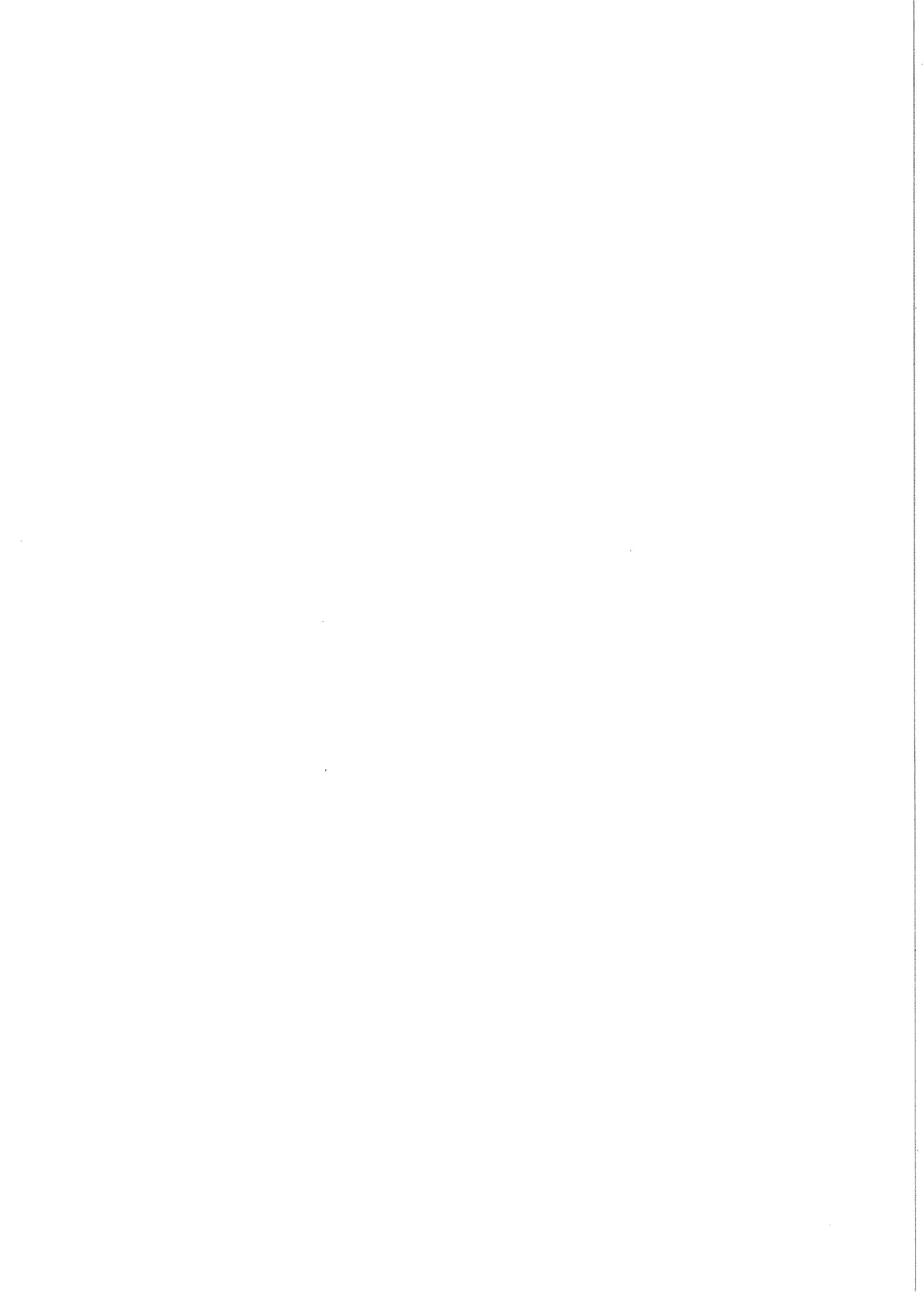
**Weipa**

<b>* Supplies of Food and Household Items</b>	
Weipa	65 %
Cairns	33 %
Brisbane	2 %
<b>* How are Supplies Delivered</b>	
Property Vehicle Pick Up Supplies	44 %
Road Freight	45 %
Sea	13 %
<b>* Centre Rely Upon for Medical/Professional Services</b>	
Weipa	57 %
Cairns	47 %
Mareeba/Atherton	5 %
Brisbane	8 %
<b>* How Do You Travel to this Centre</b>	
Road	65 %
Scheduled Air Service	45 %
Private Aircraft	6 %
<b>* Which Centre Do You Travel for Cultural Activities</b>	
Within Community	26 %
Weipa	70 %
Cairns	3 %
<b>* How Do You Travel to this Centre</b>	
Road	93 %
Air	7 %
<b>* Which Centre Do You Travel for Recreation</b>	
Local	80 %
Cape York	16 %
Penseather and North	3 %
<b>* How Do You Travel to this Centre</b>	
Conventional Vehicles	15 %
4WD	66 %
Sea	18 %

Note: Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.

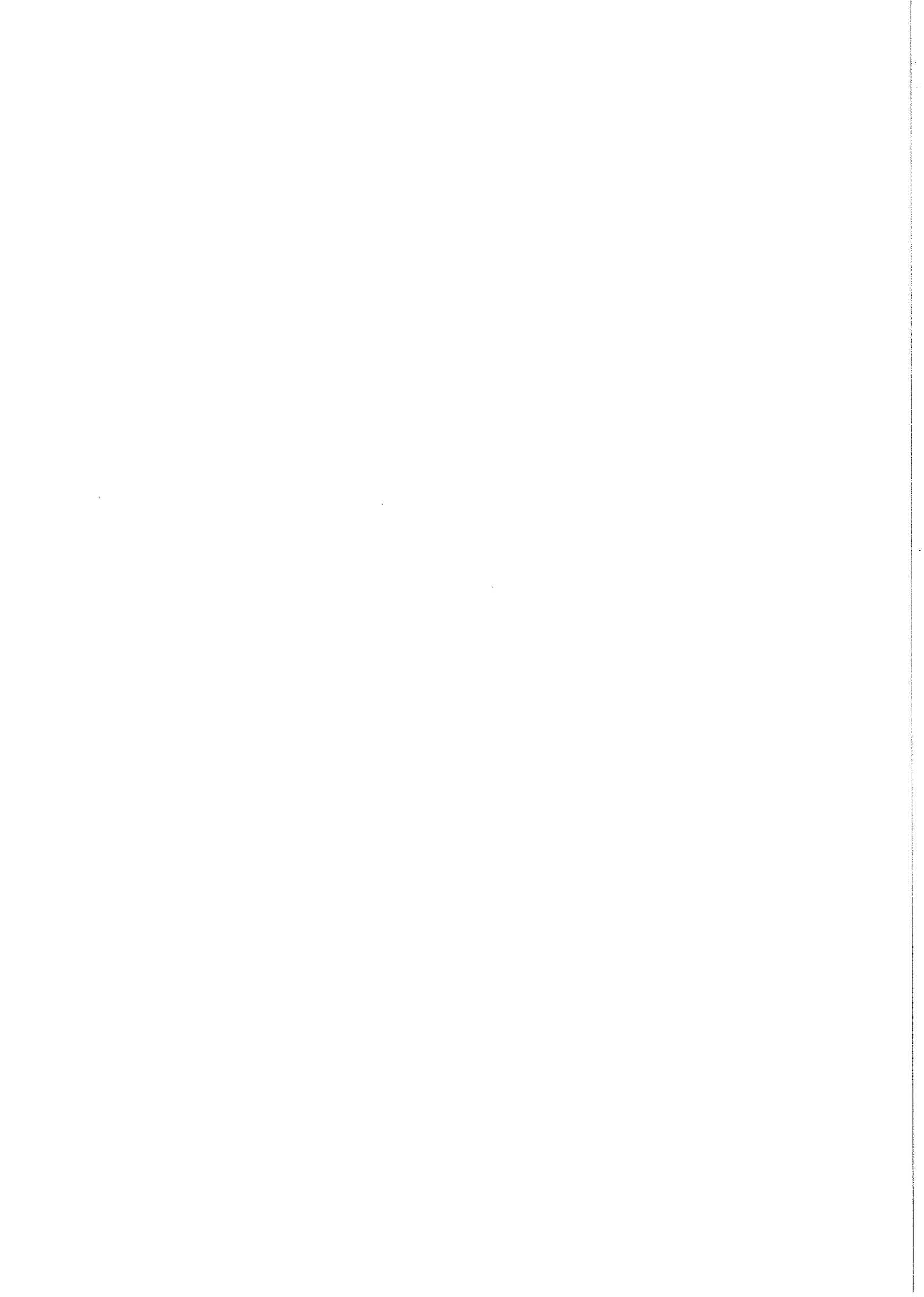
<b>If these roads were bitumen sealed would you:</b>	<b>Yes</b>	<b>No</b>
(i) Drive to destinations where you now fly?	83 %	18 %
(ii) Have goods delivered by road where you now use air services or private aircraft?	65 %	35 %
(iii) Would you move stock/produce by road at periods other than you do now?	45 %	45 %

**Note:** Percentages are for the number of respondents who nominated on category. Respondents were able to nominate more than one category. The total percentage in any group can exceed 100%.



**APPENDIX F**

**Budget Estimates**



**ENGINEERS ESTIMATE**

Project: Transport Services & Infrastructure

Date : 24-Oct-94

Section : Budget Costs

Estimated By : A.Nankervis

Checked By :

Job No: 18358-00

	Particulars of Work	Quantity	Unit	Bridges	Amount \$
<b>1</b>	<b>Peninsula Development Road - Upgrade to Bitumen Seal with Flood Immunity</b>				
<b>A</b>	Lakeland to Laura	61	km	4	\$33,200,000
	Laura to Hann R	75	km	3	\$36,600,000
	Hann R to Musgrave	63	km	5	\$35,700,000
	Musgrave to Stewart R	78	km	6	\$40,200,000
	Stewart R to Coen	30	km	0	\$5,200,000
	Coen to Archer R	64	km	2	\$32,100,000
	Archer R to Mein Deviation	24	km	2	\$13,500,000
	Mein to Weipa Lease (Pave & Seal \$150 000)	120	km	1	\$20,100,000
				<b>TOTAL</b>	<b>216.6M</b>
<b>B</b>	<b>Major Roads - Upgrade to Gravel Roads with Flood Immunity</b>				
	Kowanyama to Dunbar	100	km	6	\$14,730,000
	Kowanyama to Pormpuraaw	115	km	1	\$9,487,500
	Peninsula Development Rd to Aurukun	108	km	1	\$9,990,000
	Peninsula Development Rd to Lockhart River	120	km	3	\$13,140,000
	Bamaga Road	312	km	0	\$25,740,000
	Bamaga to Injinoo	28	km	0	\$2,310,000
	Bamaga to Seisia	6	km	0	\$495,000
	Major Rd to Peak Hill	10	km	0	\$825,000
				<b>TOTAL</b>	<b>76.7M</b>
<b>B</b>	<b>Major Roads - Upgrade to Bitumen Seal with Flood Immunity</b>				
	Kowanyama to Dunbar	100	km	6	\$50,780,000
	Kowanyama to Pormpuraaw	115	km	1	\$52,025,000
	Peninsula Development Rd to Aurukun	108	km	1	\$48,924,000
	Peninsula Development Rd to Lockhart River	120	km	3	\$56,400,000
	Bamaga Road	312	km	0	\$138,216,000
	Bamaga to Injinoo	28	km	0	\$12,404,000
	Bamaga to Seisia	6	km	0	\$2,658,000
	Major Rd to Peak Hill	10	km	0	\$4,430,000
				<b>TOTAL</b>	<b>365.8M</b>

**ENGINEERS ESTIMATE**

Project: Transport Services & Infrastructure

Date : 24-Oct-94

Section : Budget Costs

Estimated By : A.Nankervis

Checked By :

Job No: 18358-00

	Particulars of Work	Quantity	Unit	Bridges	Amount \$
<b>2</b>	<b>Roads to Community airports</b>				
	Seisia Island Council				
	Seisia Island Air Strip	7	km	0	\$3,101,000
	Torres Shire Council				
	Horn Island Air Strip	5	km	0	\$2,215,000
	Bamaga Island Council				
	Bamaga Island Air Strip	15	km	0	\$6,645,000
	Injinoo Aboriginal Council	5	km	1	\$3,295,000
	Marpuna Aboriginal Corporation	5	km	1	\$3,295,000
	Pormpuraaw Aboriginal Corporation	2	km	0	\$886,000
	Umagico Aboriginal Council	15	km	1	\$7,725,000
	Wujal Wujal Aboriginal Council	18	km	1	\$9,054,000
	Aurukun Shire Council	0	km	0	NIL
				<b>TOTAL</b>	<b>36.2M</b>

**ENGINEERS ESTIMATE**

Project: Transport Services & Infrastructure

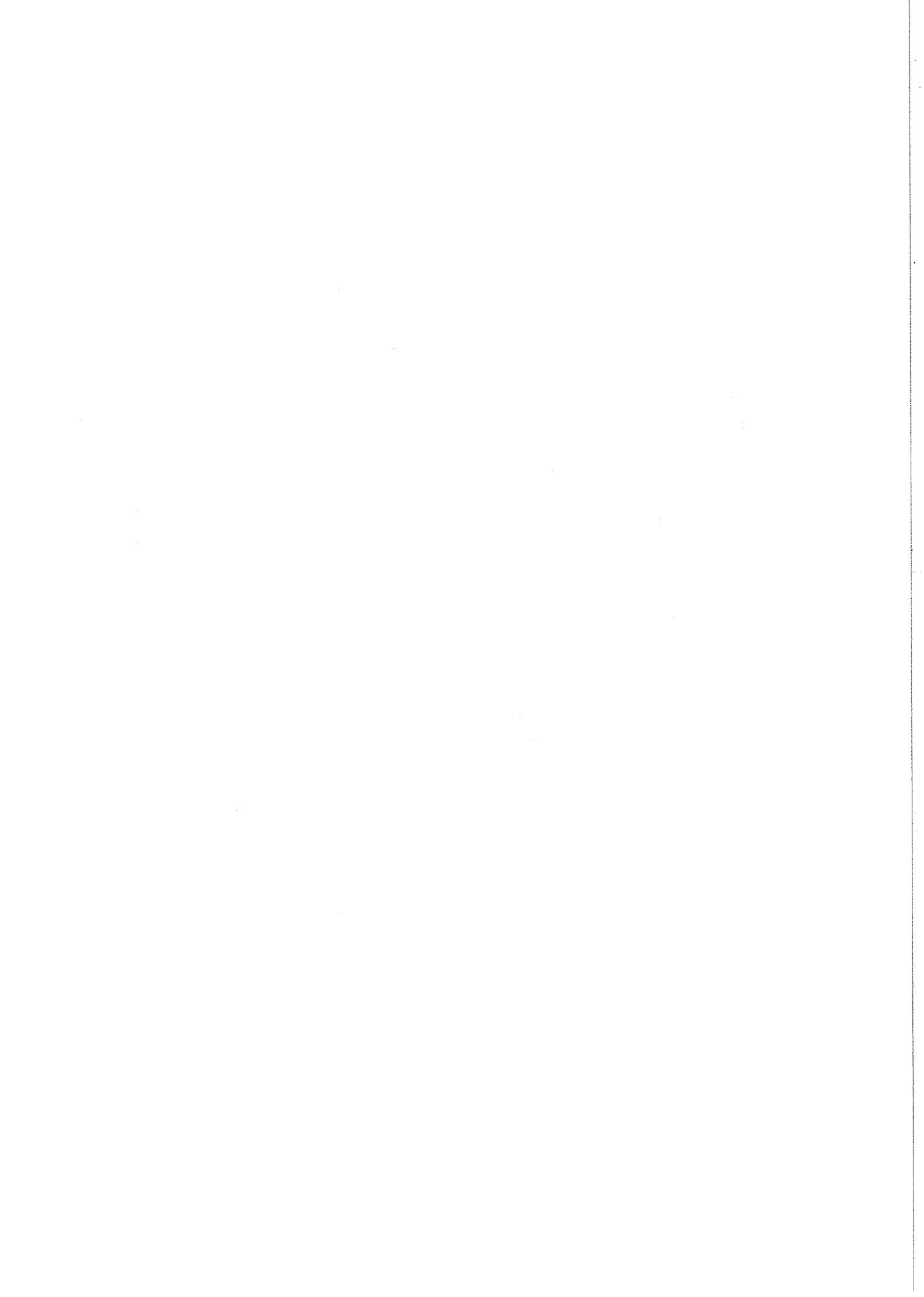
Date : 20-Oct-94

Section : Budget Costs

Estimated By : A.Nankervis

Checked By :

	<b>Particulars of Work</b>	Quantity	Unit	Bridges	Amount \$
<b>2b</b>	<b>Roads to Community Landings</b>				
	Aurukun Shire Council Access Roads				
	Aurukun	3.5	km	0	1550500
	Seisia Island Council				
	Seisia Island Landing	5	km	0	2215000
	Bamaga Island Council				
	Bamaga Island Wharf	7	km	0	3101000
	Hammond Island Council				
	Community Pier	1	km	0	443000
	Injinoo Aboriginal Council	4	km	1	2852000
	Marpuna Aboriginal Corporation	20	km	1	9940000
	Lockhart River Aboriginal Council	4.5	km	0	1993500
	Pormpuraaw Aboriginal Corporation	3	km	0	1329000
	Umagico Aboriginal Council	12	km	0	5316000
	Napranum Aboriginal Council	0.5	km	0	221500
	New Mapoon Aboriginal Council	1	km	0	443000
				<b>TOTAL</b>	<b>29.4M</b>



## ENGINEERS ESTIMATE

Project: Transport Services & Infrastructure

Date : 24-Oct-94

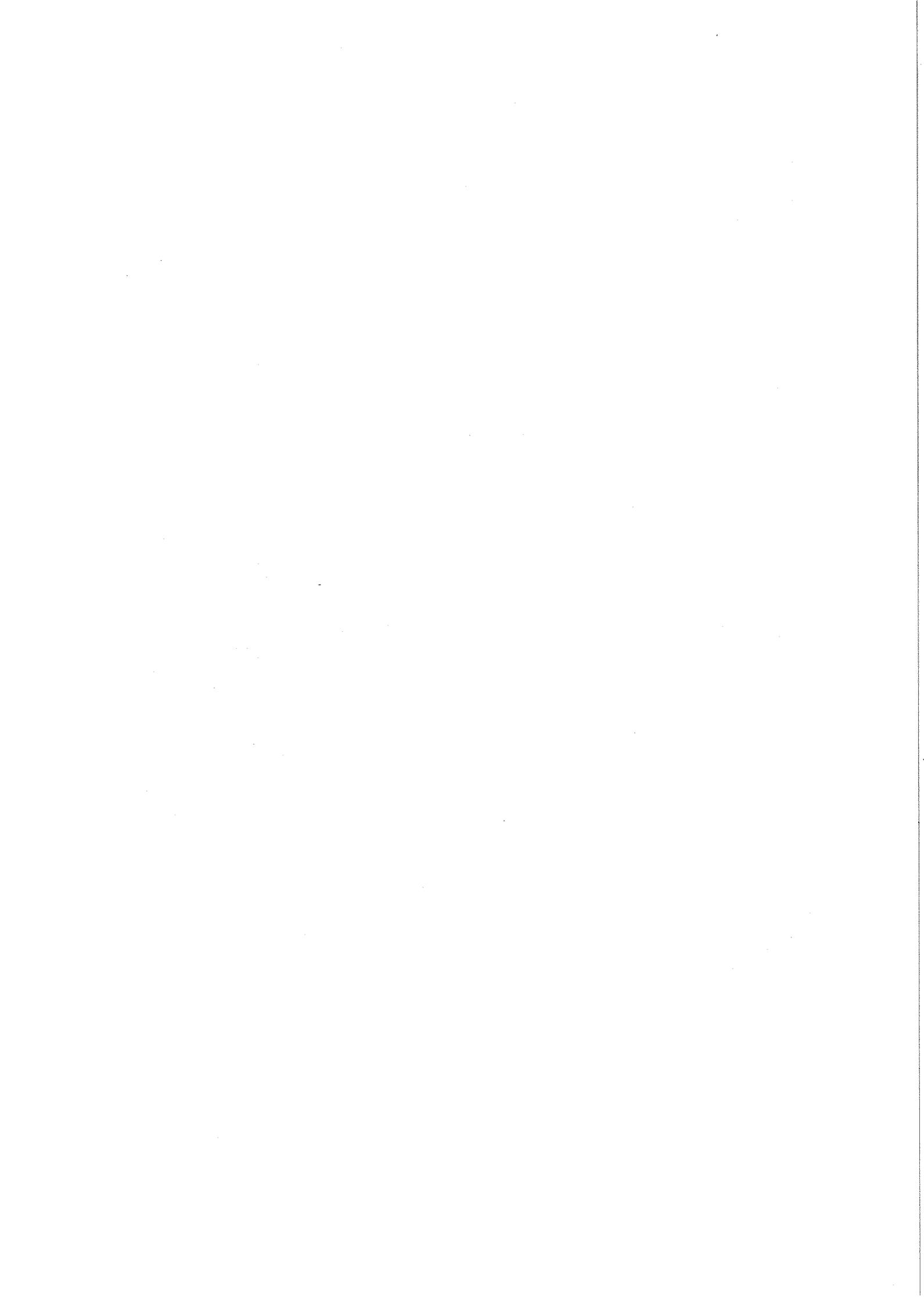
Section : Budget Costs

Estimated By : A.Nankervis

Checked By :

Job No : 18358-00

	Particulars of Work	Quantity	Unit	Cost/landing	Amount \$
<b>3</b>	<b>Cost of Providing Ports</b>				
	Aurukun Shire Council				
	Aurukun	1	landing	100000	\$100,000
	Seisia Island Council				
	Red Island Point		landing		
	Bamaga Island Council				
	Red Island Point	1	landing	100000	\$100,000
	Hammond Island Council				
	Community Pier	1	landing	100000	\$100,000
	Injinoo Aboriginal Council				
	Red Island Point		landing		
	Marpuna Aboriginal Corporation	1	landing	100000	\$100,000
	Lockhart River Aboriginal Council				
	Quintel Beach	1	landing	100000	\$100,000
	Pormpuraaw Aboriginal Corporation	1	landing	100000	\$100,000
	Umagico Aboriginal Council				
	Red Island Point	1	landing	100000	\$100,000
	Napranum Aboriginal Council				
	Weipa Port		landing		
	New Mapoon Aboriginal Council	1	landing	100000	\$100,000
				<b>TOTAL</b>	<b>0.8M</b>



ENGINEERS ESTIMATE

Project: Transport Services & Infrastructure

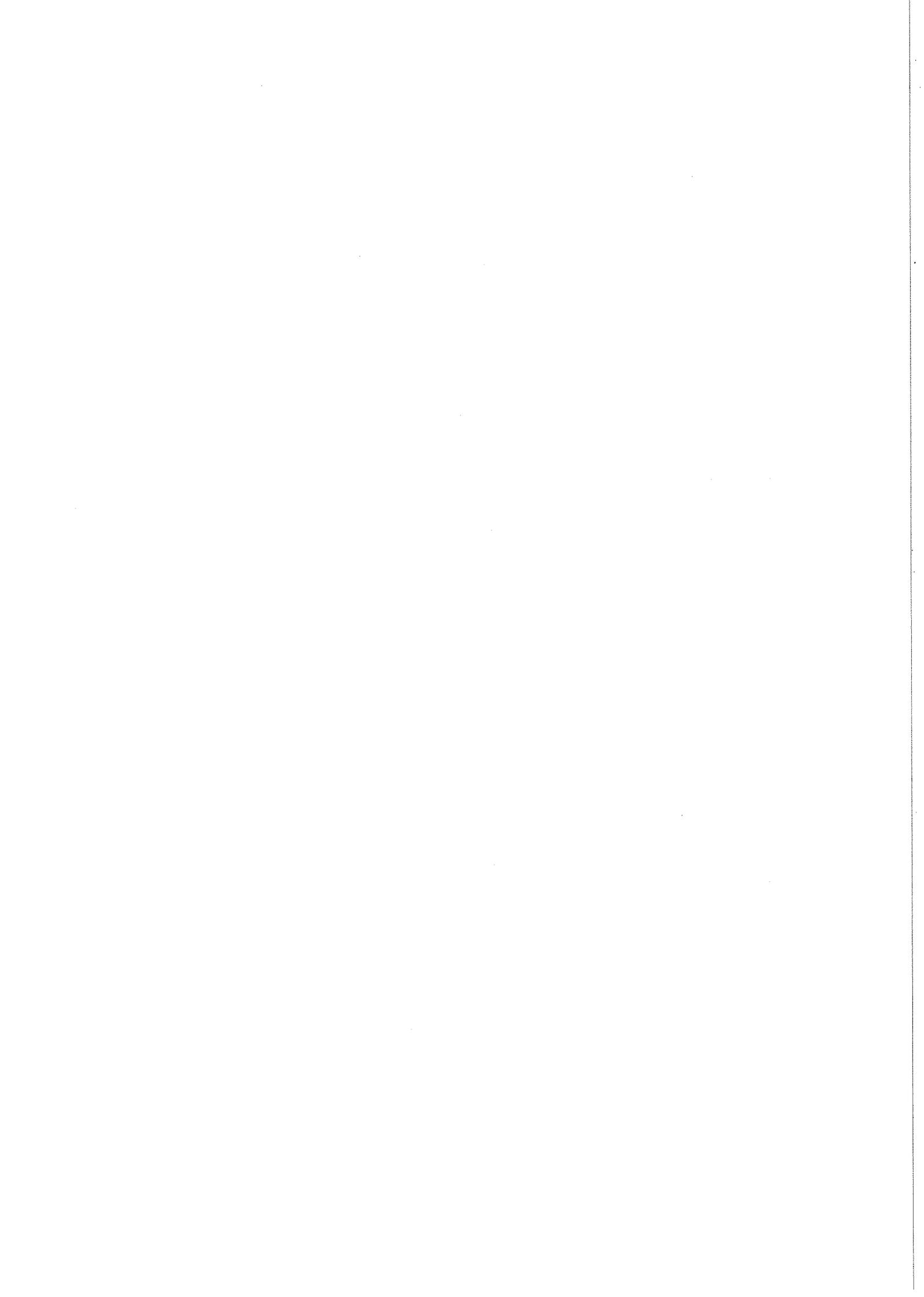
Date : 24-Oct-94

Section : Budget Costs of Providing Sealed Aerodromes

Estimated By : A.Nankervis

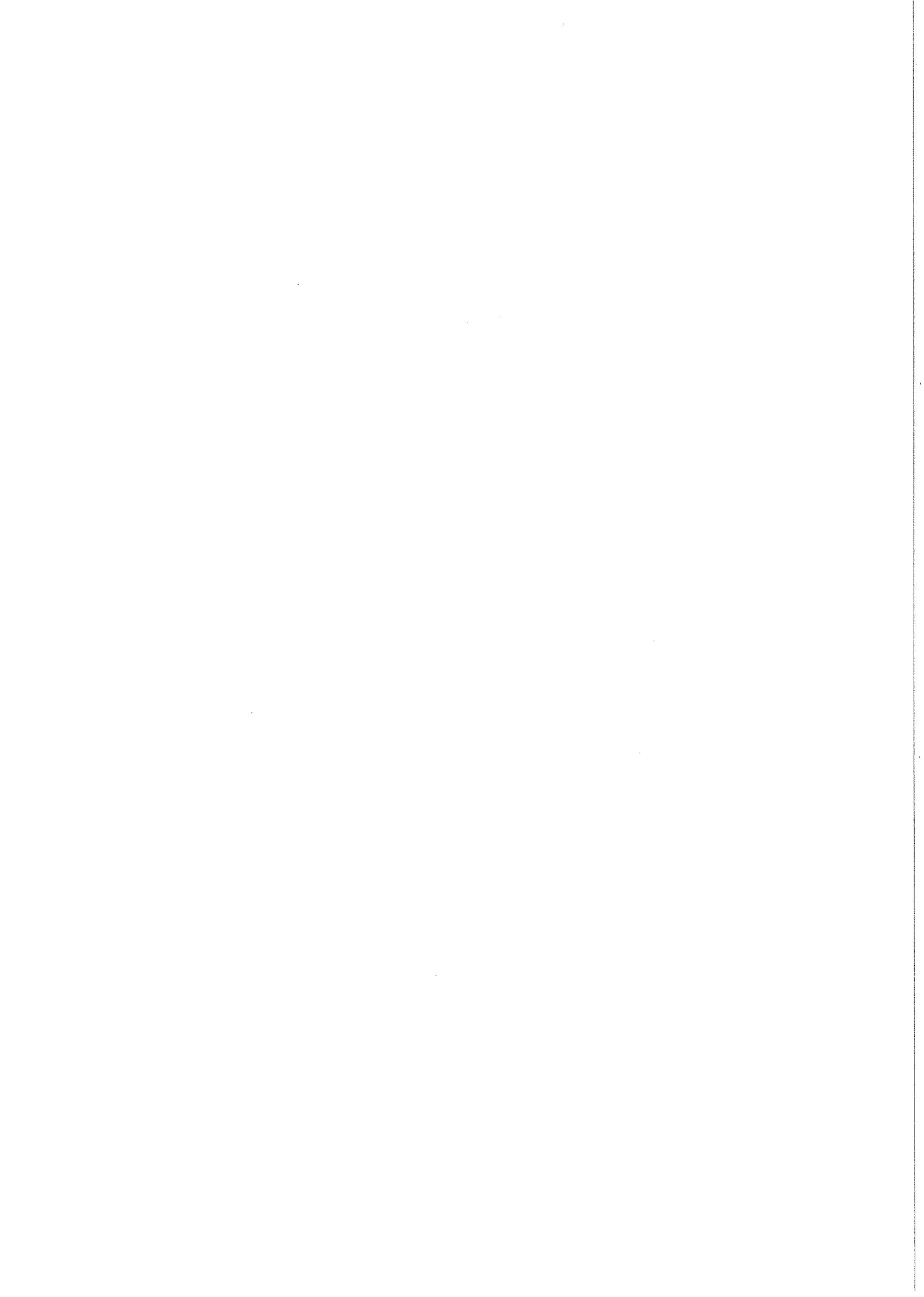
Checked By :

Job No : 18358-00	Particulars of Work	Quantity	Unit	Exist/Surface	Amount \$
<b>4</b>	<b>Sealed Aerodromes</b>				
	Aurukun Shire Council				
	Aurukun Aerodrome	1	strip	Gravel	\$3,000,000
	Seisia Island Council				
	Bamaga Airport *				
	Torres Shire Council				
	Horn Island Airport *	1	strip	Sealed	\$3,000,000
	Cook Shire Council				
	Cooktown Aerodrome	1	strip	Sealed	
	Coen Aerodrome	1	strip	Gravel	
	Bamaga Island Council				
	Bamaga Island Airport	1	strip	Sealed	\$3,000,000
	Hammond Island Council				
	Horn Island Air Strip			As Above	
	Injinoo Aboriginal Council Air Strip				
	Bamaga Island Airport			As Above	
	Wujal Wujal Aboriginal Council				
	Bloomfield Air Strip	1	strip	Gravel	\$3,000,000
	Lockhart River Aboriginal Council				
	Lockhart Air Strip	1	strip	Sealed	\$3,000,000
	Injinoo Council Air Strip				
	Bamaga Air Strip			As Above	
	Porpuraaw Aboriginal Corporation Air Strip	1	strip	Clay/Sand	\$3,000,000
	Umagico Aboriginal Council Air Strip				
	Bamaga Air Strip			As Above	
	Kowanyama Aboriginal Council - Kowanyama Air Strip	1	strip	Sealed	
				<b>TOTAL</b>	<b>18M</b>
	* Provides for Pavement upgrading for Dash 8 aircraft to operate without pavement concessions.				



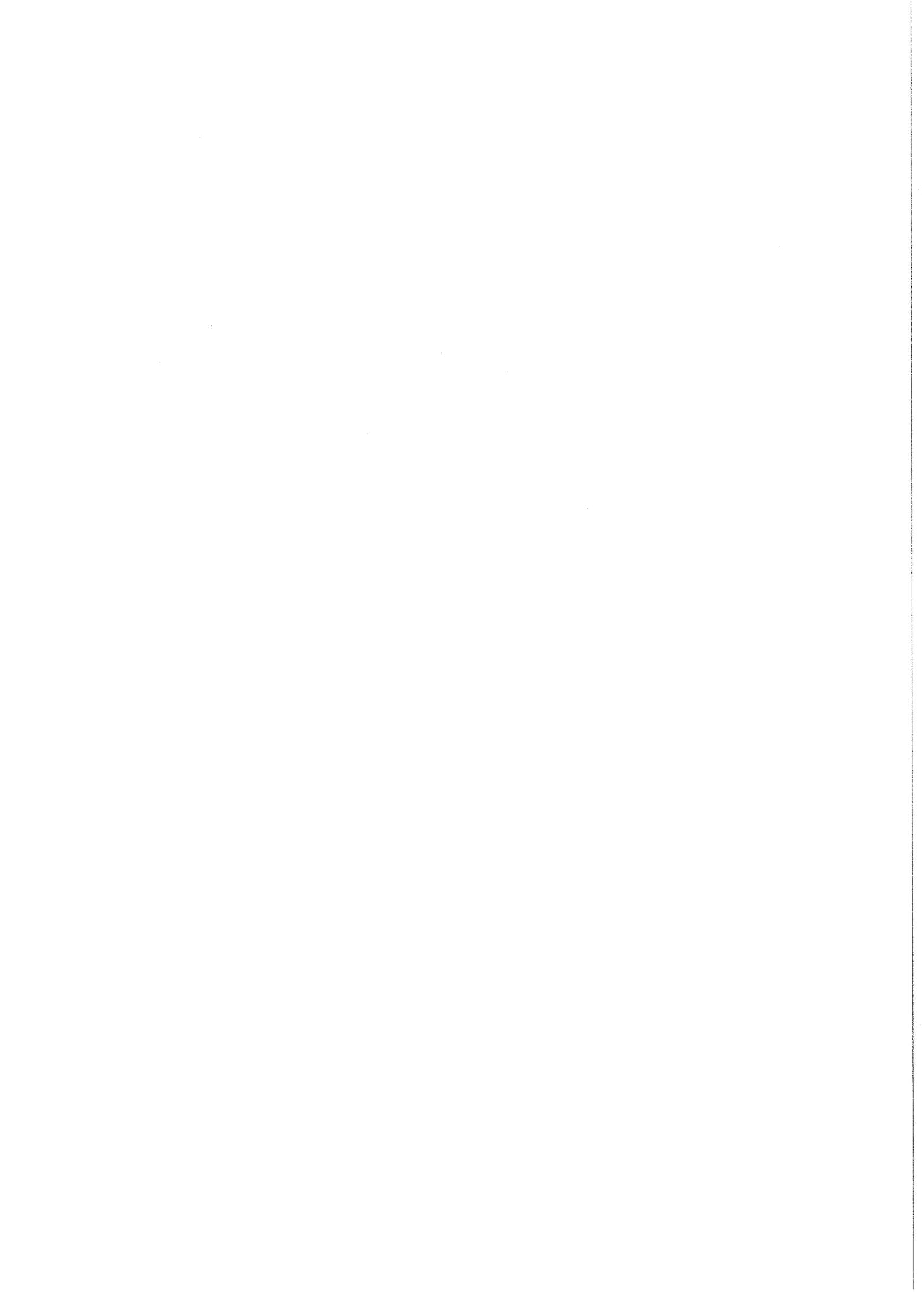
**ATTACHMENT 1**

**TERMS OF REFERENCE**



## **TERMS OF REFERENCE**

1. In consultation with Cape York Peninsula stakeholders, complete:
  - Roads inventory (declared and local);
  - Airfields inventory;
  - Ports inventory;
  - Public transport & passenger services review;
  - Freight and mail services review.
2. Enter information into CYPLUS GIS.
3. In consultation with Cape York Peninsula stakeholders, identify industries, services and locations sensitive to transport in Cape York Peninsula.
4. In consultation with stakeholders and using existing government policies (using information from Services and Infrastructure), QT position paper on transport provision to remote Aboriginal and Islander communities, and the QT Road Network Strategy, identify social justice criteria.
5. Design and conduct a survey of needs for transport services and infrastructure. Produce written survey material and data.
6. Identify minimum access requirements based on the actions of tasks 4 and 5. Provide written report.
7. Identify potential environmental impacts associated with transport infrastructure options taking into account intensity of use and seasonality.
8. Identify appropriate modes of transport and criteria to be applied to transport provision from the outputs of tasks 3, 4, 5 and 6.
9. In consultation with Cape York Peninsula stakeholders review criteria used to determine transport infrastructure standards.
10. Prepare a draft summary report of services and infrastructure issues and potential options to meet environmental, social, cultural and economic needs for review by the community.



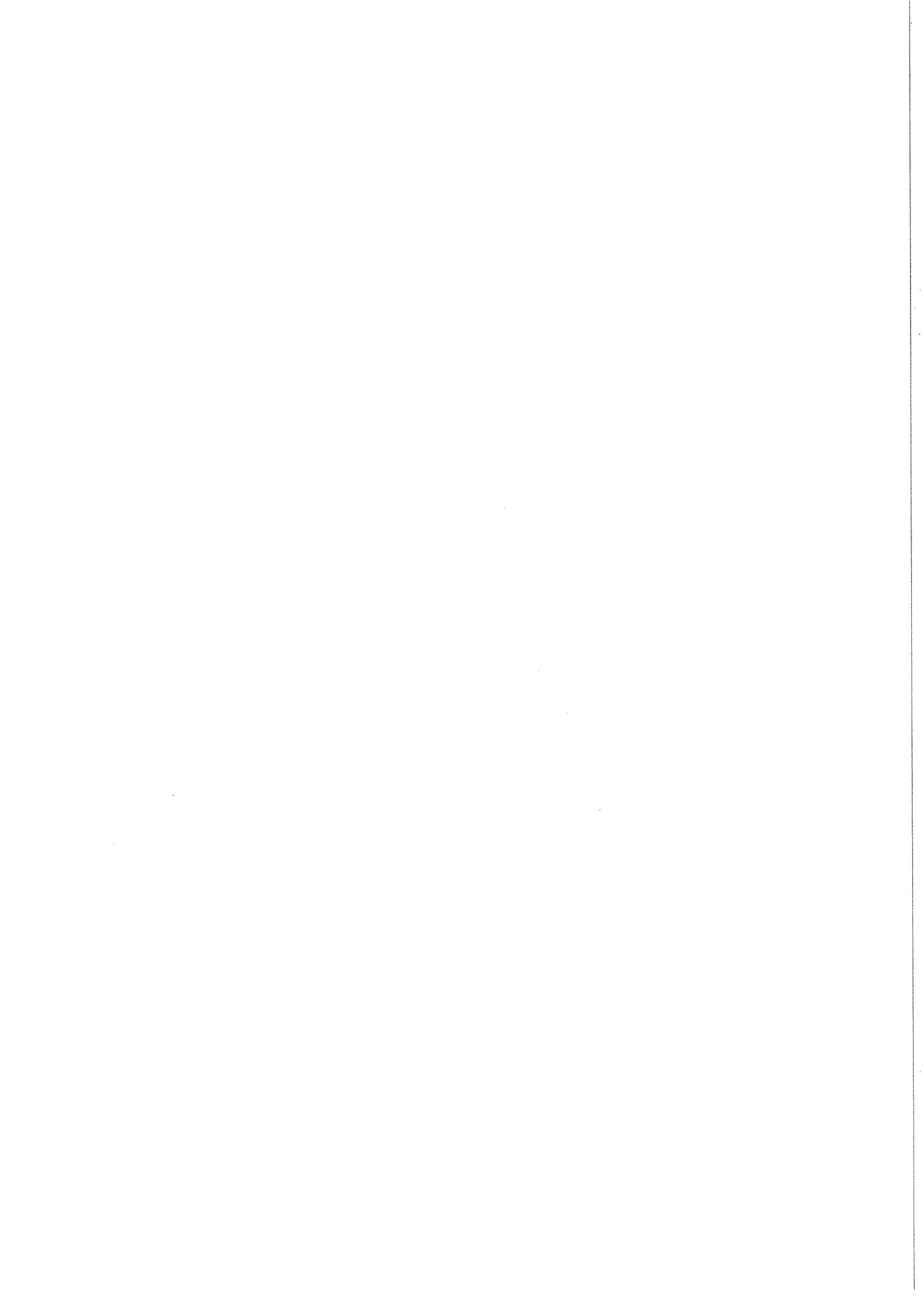
## **ATTACHMENT 2**

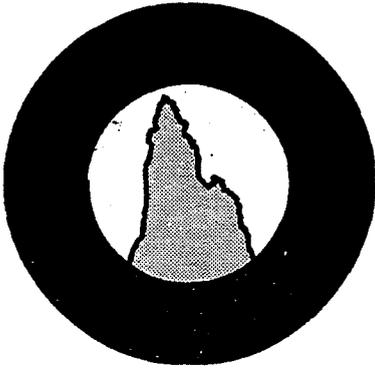
### **COMMENTS OF REVIEWERS**

The following attachment incorporates responses from community and other groups associated with the CYPLUS process in regards to this project. These comments were circulated to the author (where possible) to assist in the revision of the draft report.

From these responses, issues of fact were amended within the final report. Sections of the following comments also portray the views of the respondent and their 'constituency' (if available) in regards to the information presented by the report.

The Cape York Peninsula Land Use Strategy recognises that various and contrasting opinions exist within the wider community. The inclusion of these responses made in relation towards the information within this report, indicates that the CYPLUS process has been, and continues to be, inclusive of all points of view presented by the community.





# CAPE YORK LAND COUNCIL

38 Grafton Street, P.O. Box 2496, Cairns, Q. 4870  
Phone: (070) 51 9077 Fax: (070) 51 0097

## RESPONSE TO REPORT ON TRANSPORT SERVICES & INFRASTRUCTURE

### 1. Coverage of Aboriginal interest

We acknowledge that many Aboriginal communities chose not to respond to a questionnaire distributed by the consultants. This method is not the most culturally appropriate. Unfortunately, the consultants did not discuss their methodology with us, nor does it appear they attempted to use any alternative methods of obtaining an Aboriginal viewpoint.

It therefore needs to be noted that the report is lacking in its coverage of the transport needs of the majority of the population of Cape York, that is the Aboriginal population.

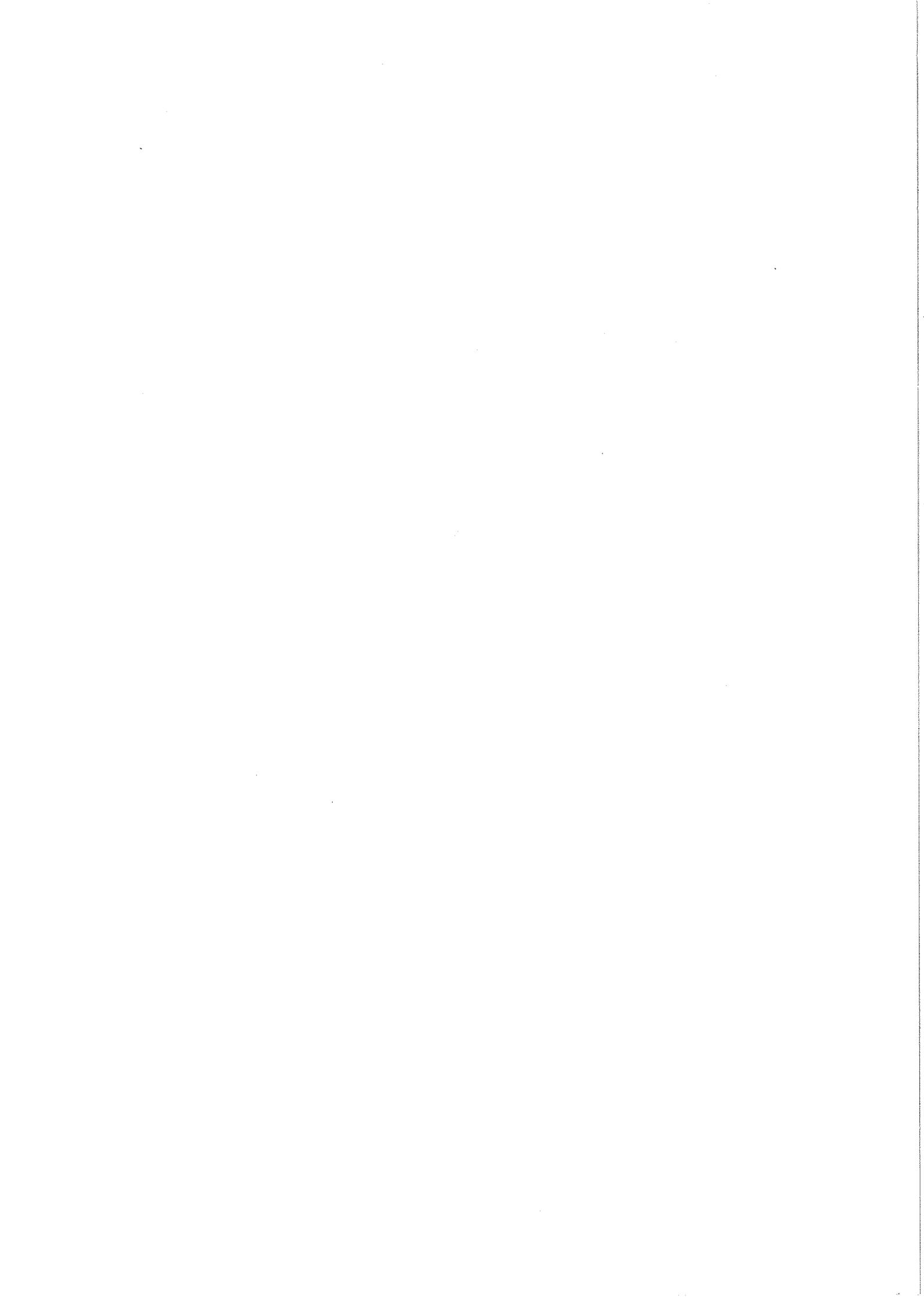
### 2. Need for coordination of barge usage and road development

Road planners need to note that road development cannot take place in isolation. This is particularly the case with barge services and road development. Providing better road access will make barge delivery less attractive in some areas. This could have enormous ramifications for other Aboriginal communities where barge delivery of goods is the only practical method. That is, the ending of some barge delivery services could put in jeopardy the delivery of basic services to other areas because they become uneconomic.

3. Note. Pages 43 and 44 appear to require the addition of some figures.

Page 47 'rail forest' should read 'rainforest'.

16 January 1995





# CAPE YORK PENINSULA PASTORAL ADVISORY GROUP INC.



TRANSPORT SERVICES AND INFRASTRUCTURE

by G.H. & D.

C.Y.P.P.A.G. REVIEW

## 1. Compliance with Terms of Reference

The report appears to meet the terms of reference within the context of available information. Provides an adequate overview for consideration by Stage 2 of CYPLUS.

## 2. Standard of Writing

The report well written, clearly indexed and the information well summarized.

## 3. Standard of Maps, Diagrams & Tables

n/a.

## 4. Adequacy of Research Methodology

As noted in my comments, in hindsight, the survey conducted in conjunction with Values, Needs and Aspirations was largely irrelevant as it did not focus sufficiently on regions.

## 5. Depth of Research

All the available data appears to have been reviewed.

## 6. Accuracy of Reliability of the Data and Information

The data is no doubt reliable as is possible. Some of the interpretations may be open to contention.

## 7. Summary

This response is on behalf of the pastoral industry and therefore focuses on particular issues that concern those residents.

Our comments are generally relate to interpretation. The attached list itemizes these concerns and offers a Pastoral Industry view of the current situation.

A good report, will provide a good basis for discussion, for Stage 2 of CYPLUS.

A handwritten signature in cursive script that reads "R. Wincen".

R. Wincen  
Liaison Officer  
18/01/1995

**"Striving for a Future in Cape York Peninsula"**

## COMMENTS ON TRANSPORT SERVICES INFRASTRUCTURE

### 2.4 Transport Issues

A road not noted as a major road in the report is the Sudley/Batavia Downs link. Originally opened to service local cattle stations, it is now used extensively by the travelling public as a short cut between Weipa and the Northern Peninsula. It is 35 km, the alternative is approximately 108 km.

As a bush track that carries many thousands of vehicles a year, it is worthy of note. (and repair). This is a prime example of the pressure being put on the local road system by the increase in tourism traffic.

### 4.2 Aerodromes and Landing Strips

No sealed runway at Lakeland!

### 6.2.4 Pastoralists

There is some mistake in the collation of the survey information!

The problem of consultants reviewing, collating and interpreting information without having a basic understanding of Cape York geography and customs is surfacing in many of the Land Use Program Reports.

I assume that the survey referred to is the Values Needs and Aspirations. The statement that "all respondents reside south of Laura" appears to be wrong and therefore any conclusions are false.

Respondents who reside south of Laura would most certainly not pick up their freight in Coen, or go to Coen, or Weipa, for medical attention. To go fishing at Port Stewart would be a journey of hundreds of kilometres.

Sealing of the Development Road may not dramatically improve all weather accessibility if the property is not located on the road.

All the roads are more or less closed for the duration of the Wet. If the Peninsula Development road was upgraded to all weather standard, many more transport options would be available.

### 6.2.6 Aboriginal People

The comment : "Aboriginal people do not have access to 4 wheel drive vehicles and therefore rely on passenger transport services."

What passenger transport services? Apart from the Wujal Wujal and Hopevale buses, which are basically to commute to Cooktown, there are no public transport services going anywhere else. They must use air services to go to Cairns. Access to the rest of the Peninsula by scheduled air services from Cooktown is via Cairns.

This also highlights the problem faced by all residents of Cape York; The poor standard of roads generally necessitates a 4 wheel drive vehicle, which is more expensive to buy. A high degree of reliability is required because of the isolated region.

The poor roads add to the high ongoing running and maintenance costs. These factors contribute to a high proportion of income being spent on travel costs.

Hindsight is wonderful! It is a pity that a distinction was not made between conventional vehicles and 4 wheel drives in the survey.

#### 7.1.5 Commonwealth Government Social Justice Strategy

Incredible that this document is not available. Should be included in final draft.

#### 7.2 Queensland Social Justice Criteria

CYPLUS should seek to have the government clarify what is described as "essential services", "reasonable access", and "affordable".

#### 8.1 Funding Requirements

Assume they are only "ballpark" figures. However they do highlight the long term benefits of minimizing resource use and environmental impact when comparing ongoing gravel replacement to a sealed surface.

#### 9.3 Jardine National Park

Archer Point is near Cooktown. Try Usher Point.

#### 10.0 Criteria Applied to Infrastructure Standards

The comments re pastoralists in the southern areas of Cape York would apply to all pastoralists. Many pastoralists in remote areas have to maintain their own roads, upgrading of access to the main road has not been a priority since all the roads are more or less closed for the duration of the Wet.

If the Peninsula Development road was upgraded to all weather standard, many more transport options would be available. As is noted, pastoralists would develop their transport options around the prevailing conditions.

#### 11.0 Conclusions

(c) Cannot agree with the interpretation "transport costs make methods of improved pasture to increase yields impractical."

Lack of profitability due to high freight costs have mitigated against implementation of newer technology which depends on inputs to improve management and nutrition. The cost of all goods transported into the region is substantially increased due to high freight costs. This is not to say that it is "impractical".

Profitability determines the funds available to increase inputs and therefore improve productivity.

Marketing: The market pays a premium in the Wet season when access is restricted. Even with sealed main roads, all properties would not have access to all weather roads. However as previously noted pastoralists are self reliant would adopt transport systems to suit the particular situation.

(f) The tourism industry is not seeking further upgrades of transport infrastructure etc. While I cannot speak on behalf of the tourism industry I believe that an improved road system would increase the length of the tourist season. Investment in facilities for use only part of the year is not economic.

(g&h) Communities, as well as everyone else must depend on the services available. The remote areas do not have options.

(j) Improved roads may not meet their personal transport needs, however it would most certainly improve the availability of supplies and reduce the cost of living. Air travel does not have the flexibility of road travel.

*R. Wincen.*

R. Wincen  
Liaison Officer  
18/01/95



# COOK SHIRE COUNCIL

COUNCIL CHAMBERS

CHARLOTTE STREET

Address all correspondence to:  
THE SHIRE CLERK  
P.O. BOX 3, COOKTOWN, QLD 4871  
TELEPHONE (070) 695444 or 695335  
FAX (070) 695423

RESOLUTION  
OUR REF. 1/29 GMCC  
YOUR REF.  
ENQUIRIES GEOFF MCCOLL  
DATE February 1, 1995

THIS IS THE  
ORIGINAL OF  
MATERIAL FAXED 1/21/95.

Mr John Sherrington  
Director of CYPLUS  
32 Grafton Street  
CAIRNS QLD 4870

Dear Sir,

With reference to section 4.3 of the current CYPLUS community contract all of the LUP reports made available to date have been reviewed.

While reviewing each report, the Cook Shire Council have concentrated on reviewing and providing comments on the reports of most relevance to Local Government and in which staff and councillors have been able to make informed comments and suggestions for improvement. The reports considered to be of less relevance to Local Government have been reviewed and comments are provided or are currently being prepared for dispatch as soon as they become available.

The following summarises the Cook Shire Council's comments to date:

#### SURFACE WATER RESOURCES - QDPI-WR

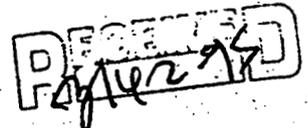
A very competent and informative report which meets the brief. Contains useful data, mapping and summaries of the geophysical features of the study area and will be a very useful document for Stage 2.

#### CONSERVATION ASSESSMENT - QDEH & AHC

AHC report available ? , QDEH not available to date

#### LAND DEGRADATION - QDPI Land Services

Not available to date?



**VALUES NEEDS AND ASPIRATIONS - PARTNERS IN PLANNING**

Not available to date

**SERVICES AND INFRASTRUCTURE - FNQ FAMILY RESOURCE SERVICE**

Report reviewed. Comments being prepared

**TRANSPORT - GH&D & DOT**

This is a competent and informative report which in the main meets the brief. It will be a useful document for Stage 2 but the following comments are made:

The report relies on in part on a paper prepared by Queensland Transport entitled "The Development of Tourism in Queensland and Its Impact on the Strategic Road Network" to which Cook Shire Council had no input.

The claim that "Cook Shire Council see the Cape Tribulation to Cooktown road important to the tourism of Cooktown" and "other than improvement of the road in localised areas to remove its roughness, the four wheel drive standard of the road is sufficient" is not true. Council believes the road should be upgraded to a sealed surface similar to that between Daintree and Cape Tribulation.

There has been no attempt to estimate the funding requirements to upgrade local roads within the Shire and there is no mention of the need for government funding for the dredging and upgrade of Cooktown Harbour and the economic benefit that would result.

There is a commuter bus between Cooktown and Cooktown Aerodrome and Coen aerodrome has a sealed runway.

These statements need to be corrected and added and it could have contained more detailed data on ports and aerodromes.

**ECONOMIC ASSESSMENT - CAERA (JCU)**

Report reviewed, comments being prepared

**SECONDARY AND TERTIARY INDUSTRY - CAERA (JCU)**

Report reviewed, comments being prepared

**PASTORAL INDUSTRY - DOL & LANDCARE MANAGEMENT SERVICES**

Report reviewed, comments being prepared

**FOREST RESOURCES - BRUCE WANNAN**

# **TRANSPORT SERVICES AND INFRASTRUCTURE**

**Gutteridge, Haskins & Davey Pty Ltd.**

## **A Review.**

### **1. Compliance with Terms of Reference.**

The consultant appears to address the Terms of Reference quite comprehensively, but there are some gaps in the information provided. For instance in Section 4.3 (page 14) the report states "The Marine and Ports Division of Queensland Transport has identified a number of potential sites for ports". It would be useful to know just where these sites are located. (They may be identified on the Map?)

Again in 4.4.1 (Page 14) "Air Services" there is no mention of the use of Private Aircraft and Charter Aircraft which in fact are used quite extensively. Charter Flights are mentioned in Appendix A Questionnaire to Councils, but I find no reference to them in the text, except for DC3 Australia.

It is also surprising that in Appendix B "Freight Movements By Air", Cape York Air Services is not listed as having received a Questionnaire.

With hindsight it is possibly unfortunate that the Consultant was not asked to make projections of the potential increase in vehicular and other traffic to, say, the year 2000. The publication prepared by the Cairns Chamber of Commerce in September 1992 ("Major Projects Cape York") is good complementary reading to the report under review although some of the information provided there is now out of date.

### **2. Standard of Writing.**

The Report makes interesting reading, but it does require some careful editing. There is a dearth of commas in some sections, resulting in long sentences which require some digesting. There are a number of minor spelling errors, among them (for example 4.1 page 8 "Shiptons" is spelt Shimptons), and in 9.3 page 48 there is a grammatical error ("The Department of the Environment is the managers for these reserves"). In 4.2 Page 13 "construction is used for "constructed" and "considered" is used for "considering". In 6.2.5 page 33 "80% of the residents stated they would drive if preference to flying if the Peninsula Development Road was sealed". In 4.5 "Mail Services" the word "Services" is omitted from the title of "Cape York Air Services". These will no doubt be corrected in the final edition.

On page 44 section 8.2 it is stated that "A further 40% is maintained on a biannual or triannual basis". This means "twice a year" and "three times a year" respectively. I think that the writer may have been looking for "biennial" and "triennial" - "once every two years" and "once every three years".

It does bear mentioning that, to his great credit, the author makes very little use of blasted acronyms. The only lapses that I found are on page 8 ("The majority of the maintenance north of the Wenlock is undertaken by Queensland Transport's Remote Communities Gang using TIDS funding"), and page 45 ("Private investment such as BOOT schemes"). I had to wait until 7.1.3 on page 38 to find out what a "TIDS" is (The spelling check on my computer gave "TIDS" a rather rakish sexist connotation), and I still don't know what a "BOOT" is!

### **3. Standard of Maps, Diagrams and Tables.**

I have not seen the Map prepared for the GIS, but the Tables used to highlight the "Road Hierarchy" and the "Modes of Transport for Freight" are clear and informative. The Tables in Appendix C take a little more reading. While we are warned in the text that "The sample of pastoralists was small, i.e., four (4)" it would have been interesting to know the number of respondents in the other groups.

### **4. Adequacy of Research Methodology.**

The Methodology as outlined in Section 3 seems adequate although the researcher could possibly have benefited from access to the Chamber of Commerce Document cited above which employs a very similar methodology in the appropriate sections.

### **5. Depth of Research.**

In 1992 it was estimated that the "All up transport cost penalties of not having a bitumen road into the Cape York area are estimated to be of the order of \$13 million per annum".<sup>1</sup> This is an inclusive figure taking into account the Mining and Pastoral Industries, as well as the various communities. That figure would almost certainly be higher in 1995. The report under review puts that figure at "\$4.4 M annually".

The Chamber of Commerce report also examines the cost penalties of living in the area. e.g. "... a \$60,000 house in Cairns would cost approximately \$40,000 extra in Peninsula centres" (page 127). And on page 128 "Lack of employment opportunities in the Aboriginal communities is costing something like \$40 million a year in special support programs". I do not wish to convey that the Document quoted is a "bible", but

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<sup>1</sup> This is fairly well documented in "Major Projects Cape York" Section 11.4 Page 127 "Summary of Existing Cost Penalties" Cairns Chamber of Commerce & Blurton Russell & Associates 1992

the very significant difference in the figures given in the two reports bear careful study.

The Report obviously does not delve deeply enough into all the economic components, so while the Terms of Reference appear to be addressed, the outputs do not fulfil expectations.

## **6. Accuracy & Reliability of Data and Information.**

There are some inaccuracies and inconsistencies in the information provided. For example Section 4.2 cites a sealed Runway at Lakeland. The Runway at Lakeland is grass and gravel!

In Section 9.3 page 48 under the heading "Jardine National Park" it is stated that "the road to Archer Point will be retained". Should this be "Archer River" or are there two Archer Points in Cape York?

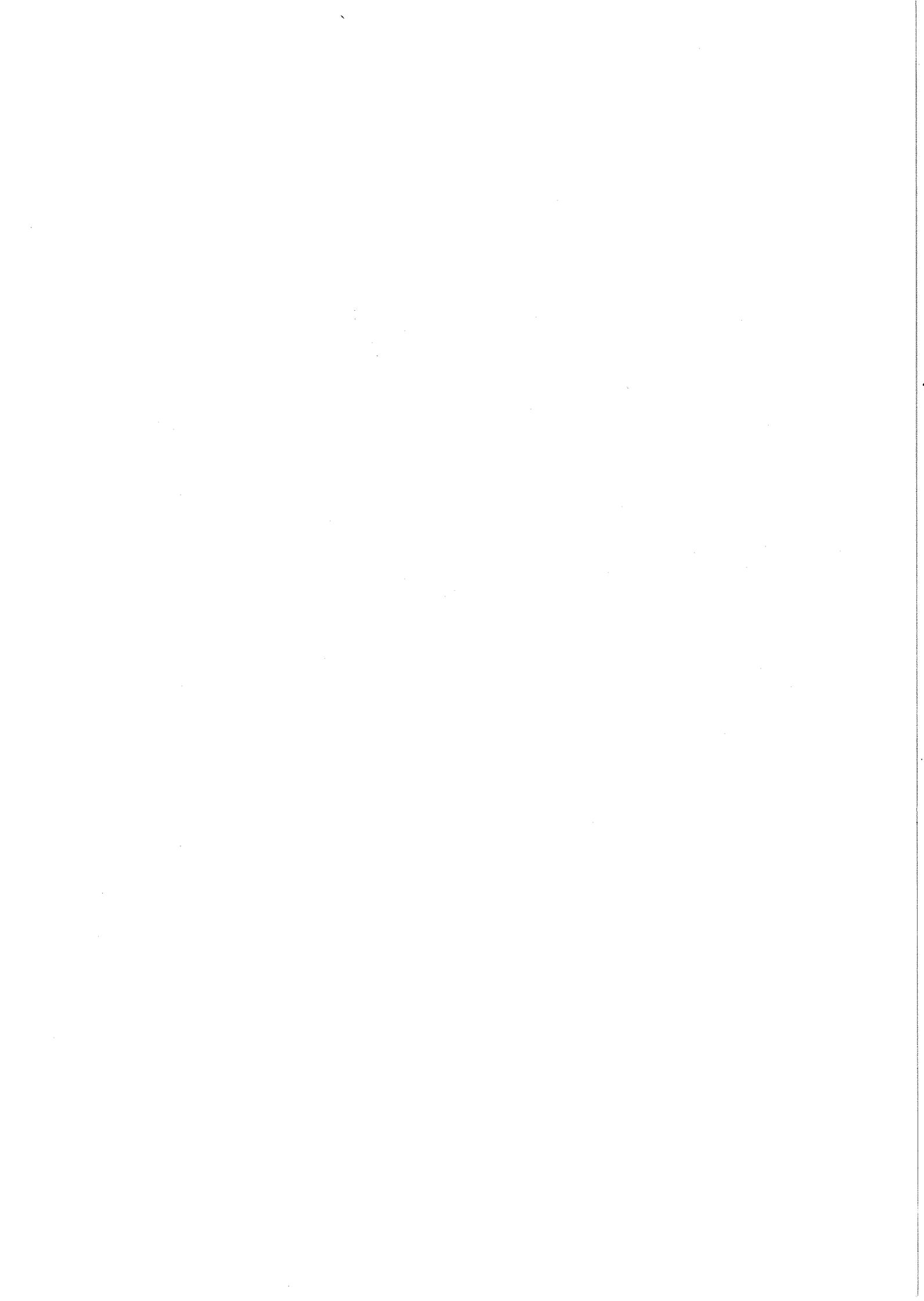
In section 6.2.4 page 32 attention is drawn to the fact that all the pastoralist respondents to the questionnaire "reside south of Laura". The text then goes on to say "the respondent **south of Musgrave** picked up these items by sending a property vehicle whereas **the respondent in the Coen area**" (my highlighting) "used road freight". The section also has pastoralists from "south of Laura" travelling to Coen and Weipa for medical attention.

These inaccuracies and inconsistencies are readily identified, especially by the people resident in Cape York. They cast doubt on data in other sections of the document which are not so readily checked. Without stringent revision this report would have little credibility among the very people to whom it is addressed.

## **7. Summary**

This is a very disappointing report, it is also a dangerous report. It ignores many of the economic factors in relation to the cost penalties of unsealed roads, and highlights the costs involved in their upgrading. The claim that if the residents of Weipa are granted their wish "for better road access to Cairns and Mareeba/Atherton" that "the economic viability of existing barge services to eastern Gulf of Carpentaria communities" would be affected, is a spurious argument in favour of maintaining the status quo. If the report is taken seriously by Government, the possibility of upgrading the transport infrastructure in Cape York must be seriously prejudiced.

**David Hurse. Cape York Peninsula Development Association.**



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Mr J. Lane  
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CYPLUS  
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18 Jnuary 1995

Dear John,

Comments on Transport Services and Infrastructure project

General

Transport policies cannot be considered in isolation from planning objectives and broader community aspirations. Given the natural and cultural values of Cape York Peninsula, transport must be planned in with the protection of these values. That is, given the significance of these values, wildlife management, tourism management, ecological considerations and environmental protection should be the factors that determine transport policy not the reverse.

This emphasis does not come through this report.

The report, however, does contain useful information particularly on costings etc.

(1) Section 5 : Industries Sensitive Transport

The projections for an increase in the size of cattle herd and the resultant turn off are ungrounded and very optimistic that if brought to fruition will cause considerable environmental damage to Cape York.

There is also no policy decision yet made about live exports from Weipa and this export is very uncertain due to a number of factors.

(2) Section 5.3 and 5.4 Tourism and Mining Industry

The report concludes that the tourism industry is not seeking road upgrades and ".....will utilise whatever road infrastructure is currently in place."

The section on the mining industry also states that this industry is relying predominately on air and shipping transport.

It is significant that these two industries are very neutral when considering road upgrades. In the case of the tourism industry it is presumably because of the nature of the experience offered to clients and visitors i.e. remoteness, outback, nature based etc.

These factors must be seriously considered when developing transport policy for Cape York.

On page 27 the suggested determinants for whether the listed mining operations proceed need to be supplemented with comments about community values and the results of land use policy formulation through CYPLUS stage two.

#### Section 9 Identification of Potential Environmental Impacts

The section on wilderness, one of this planet's fastest disappearing resources, is inadequately explained away in the last sentence. Transport policies do in fact have large impacts on wilderness and the "offset" notion in that sentence is flippant.

Section 9.2 page 47 the inappropriate practices of the Dept of Transport that were the target of criticism cannot be explained by "other authorities installing services". The reader must ask what services when we are considering stretches of road north of the Archer River where powerlines and water mains do not exist.

#### Section 10 Criteria Applied to Infrastructure Standards

An environmental criteria must be applied, refer to our summary comments above.

On page 50, the consultant is overly optimistic about live cattle export from Weipa.

Section 11 Page 52 conclusion (m). Road and transport policies need to be part of a wider strategy for conserving the environment, culture and ecological systems of Cape York. While construction impacts may in fact be able to be managed as stated, in many instances the impacts from increased visitation that flow from transport upgrades cannot be adequately managed.

We trust these comments are useful.

Yours faithfully,



Jim Downey

CYPLUS Co - ordinator.



**ATTACHMENT 2**

**Cape York Land Use Strategy  
Report on Transport Services and Infrastructure  
(December 1994)**

The report indicates total funding of up to \$697 M is required to upgrade transport infrastructure in the Cape York Peninsula area to specified standards. This estimate includes \$612 M for upgrade of major arterial roads to two lane bitumen seal standard, with the balance of \$85 M relating to upgrading aerodrome and sea landings and associated access roads.

A lower amount of \$155 M is estimated for upgrade of these roads to a lesser two lane gravel standard, giving a lower total cost for all the proposed infrastructure works of \$240 M.

Treasury considers that the high cost of the bitumen seal upgrade would be difficult to justify given the low traffic volumes for these roads.

The lower cost gravel option, whilst considerably less expensive, would still represent some 34% of the Department of Transport's \$462 M Consolidated Funded roads allocation.

The total proposed program of \$240 M represents 48% of the Department's total Consolidated Funded capital budget of some \$500 M.

Treasury considers that funding for the proposed works would need to be funded from within the Department's existing capital funding allocation. Capital funding growth for the Department has been strong in recent years. Funding for roads, which is escalated in line with growth in Motor Vehicle Registration Fee revenue, has seen annual growth of some 4-5% above CPI in recent years. In addition, ongoing roads funding increases of \$50M pa and \$10M pa respectively were approved in the past two Budgets. The roads program has also benefited by an estimated \$70M in efficiency gains as a result of implementation of the Road Reform Program.

✓ The report should mention Treasury guidelines *Private Sector Involvement in Infrastructure Development in Queensland*. These guidelines deal with the means by which Private Sector can become a participant in the provision of infrastructure.