

There are no special facilities at jetties for wheelchairs at any of the islands within the Torres Strait. The Department of Health has responded to an identified need for better transport facilities on OTSI communities for sick and injured persons, focussing particularly on the lack of suitable transport to and from the community airport. Private individuals and community councils assist where transport is essential, such as for emergency evacuations, but do not have the resources to fund full time vehicles for health care.

Special purpose all-wheel-drive vehicles have been supplied to community health centres in the past, but without clearly defined lines of responsibility, adequate maintenance and support for operating costs, most of these vehicles have not survived. Queensland Health does not currently have the capacity to provide new ground transport vehicles to the OTSI islands, but is supporting the investigation of other options. Helicopter transport has proven to be the most effective emergency transport, being responsive and flexible, with Queensland Health paying for emergency and other health related transport regardless of the circumstances. The Queensland Government also pays for the Torres Strait Rescue service, which provides emergency medical evacuations, and also helicopters, which are the preferred means for non-residents to gain access to emergency services at the Thursday Island hospital.

4.0 Analysis of Issues and Transport Demand

Issues identified in previous tasks and transport demand are analysed in the following sections. The issues have been grouped into the three modes of transport in Torres Strait, being sea, air and road. The transport demand has been qualitatively and quantitatively described by passenger and freight movement.

4.1 Population and Employment Trends and Pressures of Relevance to the Study Area

Population and demographic data for the Torres Strait is not considered to be reliable due to the movement of people between the various communities. However, the 2005 population was estimated at 8,500, growing to an estimated 13,000 in 2026.

Population growth rates for the OTSI communities and the surrounding region are estimated at 2.3%.

The average age of the Torres Strait population is much lower than that for the rest of Queensland. However, there is a trend towards a flattening of the age profile, with the median age rising from 23 in 1995, to 25 in 2001. There has been a slight increase in birth rates and the proportion of older people.

Immigration in the region is relatively minor, with some cross-border movements for services (eg. health) and some indication of locals coming back to the islands for lifestyle reasons.

Household sizes in OTSI communities average 5.2 persons per household, while the average Australian household contains 2.6 people. Median weekly incomes are also lower than that for the rest of Australia, \$200-\$299 compared to \$500-\$599.

Employment in the major centre is predominately in government areas (health, education and social services). A much smaller number of workers are employed in small businesses. More than 50% of workers travel to their workplaces on foot, with cars the next used mode at approximately 30%.

4.2 Future Development Affecting Transport Demand

Upgrading of Horn Island Airport

Horn Island airport is the major passenger gateway for Torres Strait residents travelling to/from Cairns. The main runway 08/26 is restricted by an obstacle height limitation located to the east of the runway. The obstacle is a hill that cannot be practically removed and the Kaurareg have native title to this land. This restricts outbound capacity for approximately nine months of the year, due to the prevailing winds. During this time, QantasLink's Dash8 - 300 cannot take off fully laden. There are several options to mitigate this problem, namely;

- lengthen
- lengthen and strengthen, or;
- use aircraft that can take off fully laden without restrictions.

All options depend on the aircraft that the operator uses and an analysis of possible aircraft is provided below.

- Bombardier Dash 8 Q300 series (50 seat) – The Dash 8 Q300 series aircraft currently used by QantasLink on this route has a maximum take off weight (MTOW) of 19,500 kgs, comprising a full 50 seat pax load, baggage, freight and fuel supplies. To operate out of Horn Island at this maximum weight, either the hill would need to be removed and the runway extended at least 300

metres or the runway would need to be extended at least 800m. Further analysis is required to confirm the actual extension length. The current proposal for a 400m extension will not allow for the MTOW of the Dash 8 Q300. TSC already hold the land necessary for an 800m extension.

- Bombardier Dash 8 Q400 series (72 seat) – The Dash 8 400 series aircraft can only land under CASA concession, as the Horn Island Airport pavement strength is not adequate to allow the Q400 to land normally. It would require a shorter runway extension than the Dash 8 Q300 as it has much more powerful engines and so can get clear of obstacles (including the hill in event of single engine failure on take-off) much quicker than the Q300. However, pavement strengthening will be required for the runway, taxiway and apron before it can fly here regularly and without CASA concession. The current contract for air services between Horn Island and Cairns requires only a 30 seat aircraft to be operated twice a day. For the 400 series aircraft to operate into Horn Island, it would require either a change to the contract minimum service levels or the airline would need to voluntarily decide to operate their most profitable aircraft here rather than on other routes offering better patronage and revenue.
- Bombardier Dash 8 200 series (36 seat) – To increase seat capacity out of Horn Island, there is an option that does not require infrastructure improvements. This would involve scheduling of more Dash 8 200 series 36 seat aircraft onto the route. These aircraft can currently operate out of Horn Island without load restrictions or infrastructure improvements. Three Dash 8 200 series services per day would see 34 more seats¹ available daily ($=36*6-2*(50+41)$), compared to the current twice daily Q300 load restricted services.

Further work is needed to assess pavement strengthening required and the cost involved for various current aircraft types, so that the options can be fully assessed and compared.

Jet aircraft operation into Horn Island is not considered to be a viable option due to their much higher operating costs and demand not having reached the level where this would be economic. Furthermore, the higher capacity of jets would result in reduced frequency. The smallest practical jet that was previously considered for service to Horn Island was the BAE 146 with a passenger capacity of 86 people. This was reasonable at the time of the planning and would have required a 400m extension of the Horn Island runway, however under current noise regulations this aircraft will be phased out of operations in Australia by 2008.

Sealed All-Weather Airstrips

Sealed, all-weather airstrips will be available to most communities by 2007 (exceptions to this are Hammond, Dauan and Ugar Islands, which have no fixed wing air access). Currently a significant percentage of passengers choose not to fly in bad weather if landings are to be on unsealed strips. Historically some previously unsealed airstrips (Boigu, Saibai) closed for periods of up to several months during the wet season. The completion of the sealing program in 2007 will give community members confidence in the safety of air services to the OTSI. With this confidence it is anticipated there will be an increase in usage of this mode option with the potential to decrease airfare costs due to flights being closer to capacity (fewer empty seats).

Urbanisation of Horn Island

A shortage of land available on Thursday Island has resulted in pressure on adjacent islands to act as dormitory settlements for Thursday Island. Many residents of Horn, Hammond and Prince of Wales Islands travel to Thursday Island on a daily basis for employment purposes and to undertake shopping and social visits. Currently, restrictions on travel between islands caused by timetables (limited after hours access), ferry cost and lack of inter-island vehicular access, limit the number of people using islands adjacent to Thursday Island for this purpose. However, the introduction of more flexible or cost effective options has the potential for significant usage in the future. Recent improvements to

¹ Two return Dash 8 Q300 services per day with 41 seats out and 50 seats in, equals a capacity of 182 seats per day. Three return Dash 8 200 services per day, with 36 seats on each flight, equals a capacity of 216 seats per day. Therefore there is a difference of 34 seats per day.

dinghy mooring facilities at Thursday Island have also been heavily utilised, demonstrating a demand for improvements to facilities servicing day visitors from adjacent communities.

The Torres Shire Council planning scheme identifies Horn Island as a major growth area. The intention being that it will cater for the spill-over growth from Thursday Island. However, at present there is generally a strong preference by residents to live on Thursday Island rather than Horn Island. This is simply due to the greater population on Thursday Island and the better facilities, both recreational and professional. At present there are very few facilities on Horn Island and there is no after hours public transport between Horn and Thursday Islands. Due to the remote nature of the Torres Strait, socialising with friends is the most common recreational activity, which is severely restricted for people living on Horn Island. As the population of Horn Island grows, it is believed that there will be increased pressure for better public transport services to Thursday Island to better integrate the two communities.

Development of Industry on OTSI

A focus of the community councils in the Torres Strait is to increase employment opportunities for island residents. A wide range of industries are currently under consideration including: growing sea sponges, prawn farms, juvenile crayfish farm, etc. However, the focus of these industries is the employment of the residents of the individual island, and again due to the land constraints, it is considered unlikely that there is sufficient land on most islands to develop large scale industries requiring labour from adjoining islands. While this is possible, it is considered unlikely.

The exceptions to this are Moa and Badu where it would be possible to have large scale industries that could potentially generate employment in excess of the capacity of the respective island. However, it is considered unlikely that this will occur within the twenty year timeframe being considered under this plan. It is envisaged that development will generally occur on islands in order to generate employment for that particular island's residents, and that it will not lead to significant changes to people's travel behaviour.

Any development will place additional demand on the freight services, however, this is seen as a positive result since the current freight volumes are relatively small and increased volumes may promote economics of scale or competition within the freight sector.

It is stressed that the economic viability of developments within the Torres Strait is heavily influenced by barge freight costs. This is because all materials, equipment, consumables, etc, are transported by barge from Cairns, and any goods produced will most likely be transported back to Cairns (eg. sea sponges, juvenile crayfish).

Improved Living Standards

The standard of living has improved greatly in the Torres Strait over the past ten years, with the development of critical infrastructure such as water supplies, sewerage schemes, medical centres, housing, etc, and it is envisaged that improvements will continue over the next twenty years. Improvements to the standard of living have led to increases in the freight volumes into the Torres Strait, as residents become greater purchasers of standard household goods such as furniture, televisions, whitegoods, etc. Furthermore, the sealing of roads on the outer islands has led to a jump in car ownership levels, which again leads to an increase in sea freight volumes.

It is envisaged that living standards will continue to improve in the Torres Strait region and that this will continue to flow on to increased freight volumes entering the region.

Strategic Geographic Location of Torres Strait

The geographic location of the Torres Strait is of strategic importance in relation to Australia's border security. Activities such as illegal immigration, illegal fishing, smuggling, etc, are a risk in the Torres Strait due to the proximity of Papua New Guinea and Indonesia. Furthermore, the Torres Strait serves

as an early detection zone for the transmission of exotic pests and diseases into mainland Australia. The Torres Strait is also of importance to Australia's defence as it controls the main east-west shipping channel.

Recent developments, including the "over the horizon" radar installation and a detention facility for illegal immigrants, are soon to be constructed on Horn Island. It is believed that additional development in the Torres Strait to address quarantine, defence and illegal cross-border activities will take place by the Federal Government into the foreseeable future.

4.3 Transport System Situation in 2005

4.3.1 Passenger

The movement of people in the Torres Strait is currently undertaken either by sea, air or road and depending on the origin and destination, the trip is made using one or a combination of modes. **Figure 4.1**, **Figure 4.2**, **Figure 4.3** and **Figure 4.4** depict modes and infrastructure for on-island travel. Inter-island trips are made using small boats or passenger ferries, and external trips (e.g. from Thursday Island to Cairns) are made using a combination of modes including:

- Passenger ferry or small boat from Thursday Island ferry terminal to Horn Island ferry terminal;
- Bus, taxi or car travel from Horn Island ferry to the Horn Island Airport; and
- The final leg by plane from Horn Island to Cairns.

Figure 4.1 Thursday Island Bus Shelter



Figure 4.2 Students departing the Ferry at Thursday Island



Figure 4.3 Thursday Island School Bus



Figure 4.4 Thursday Island Taxi

