Appendix I – Stakeholder Consultation

Stakeholder Consultation

Stakeholders were consulted throughout the range of studies used in this Master Plan, in the writing of the reports referenced in this document and an earlier Terminal Upgrade Study prepared by Airbiz. The results of this consultation also formed the basis for consideration in development of the Master Plan. Appendix I details the stakeholder consultation undertaken during recent terminal planning works and is directly relevant to this Master Plan.

Port Hedland Airport

Terminal Plan

Stakeholder Consultation

08 December 2010

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1 Introduction

This report provides the outcomes and recommendations of the Stakeholder Consultation process undertaken at the commencement of concept design for the Port Hedland International Airport terminal expansion project.

2 Methodology

Airbiz developed a list of stakeholders based on input from airport committee and management

Identified stakeholders can be broadly grouped as follows:

- Airport owner and operator – the Town of Port Hedland , the airport committee and airport management
- Business and Community - major employers and business and tourism collectives
- Airlines – RPT and charter operators
- Government Agencies – border control and other
- Other service providers – current and prospective including the car rental industry and retail operators

During visits to Port Hedland on 18 October and 9-10 November, Airbiz engaged in face-to-face meetings with groups or individuals from these stakeholder groupings.

Further engagement was undertaken through meetings in Perth and through email and phone communications to other locations including Canberra, Sydney, Brisbane and Darwin.

This report includes:

- Project Background
- Specific Requirements identified by the following stakeholder groups:
  - Airport Owner and Operator
  - Business and Community
  - Airlines
  - Government Agencies
  - Other Service Providers
- Statement of Requirements – Planning Parameters

3 Project Background

The Town of Port Hedland (TOPH) owns and operates the Port Hedland International Airport (PHIA).

The Port Hedland International Airport (PHIA) is experiencing rapid growth in the numbers of passengers and service providers for both domestic and international flights. The 3,000m^2 Terminal building will need to be extended/redeveloped to accommodate long term growth in passenger numbers of the Port Hedland International Airport.

The PHIA currently operates general passenger and freight flights from/to Perth, Darwin, Broome, Karratha and Bali. There is potential for flights from/to Newman, Melbourne, Brisbane, Singapore and other destinations, pending discussions with relevant stakeholders. Several flights operate to transport workers from Port Hedland to remote mine sites. Some international flights stop at Port Hedland for fuel or customs checks.

This project specifically addresses the refurbishment and expansion of the PHIA Terminal Building and Parking Upgrade and does not include airside works.

4 Stakeholder Consultation

4.1. Stakeholder Consultation

To ensure consideration of all relevant aspects in the concept design process, the TOPH engaged Airbiz Aviation Strategies to:

- Undertake consultation with stakeholders to identify their needs and develop statements of technical requirements
- Coordinate with the design team to input stakeholder requirements in design

4.2. Stakeholder Consultation Process

Airport projects inevitably involve a wide range of stakeholders. During the concept development phase of a passenger terminal among the key stakeholders are:

- The airport owner/operator – management and senior staff
- The airlines – current and potential future
- Airport tenants – current and potential future
- Local, State and Federal government departments and agencies such as security, quarantine, immigration, customs
- Airport and terminal service providers such as fuel, freight, cargo
- Major commercial airport users groups.

4.3. The Objectives of the Consultative Process

The purpose of the stakeholder consultation process is to prepare an operations-oriented statement of how the refurbished and expanded PHIA Terminal will function to:

- Reflect updated operating and product intentions of airlines, particularly where these may be in a state of change
- Document the processes, technologies and manning/resource levels that government agencies will need to commit to in order that the Terminal facility functions in line with the airport owner's expectations and user requirements (particularly airlines) and Design team assumptions
- Identify and resolve any conflicts or contradictions between assumptions that various stakeholders may have about how other stakeholders will be operating

- Update and inform the Design Team, primarily to confirm the basis of their design brief, but also to identify where possible design changes may be deemed necessary so that the building and facilities is optimally aligned to the intended operating methodologies of all stakeholders.

For each of the functional elements within the PHIA Terminal expansion the methodology will comprise:

- Overall description of function and critical performance / outcome goals
- Process flow chart if applicable
- Relationship with adjacent functional areas including inputs (dependencies) and outputs
- Facilities and spatial requirements as appropriate
- Summary of design attributes and operational resources required to carry out the function to meet agreed demand levels

The statement of technical requirements will define departing and arriving passenger flows through the refurbished and expanded Terminal and all other movements and processes that are critical to terminal functions such as farewellers, meeters and greeters, staff, security, goods transfer, waste handling, retail concessions, interfaces with existing terminal infrastructure, cleaning, regular operations and emergency procedures.

5 Airport Owner and Operator

5.1. Vision for Terminal Expansion

During discussions with the ToPH Airport Committee, the Airport Committee identified the broad vision for the project in the context of the overall vision for development and growth of the Port Hedland economy and community

Planning horizon 2025, anticipated passenger numbers of 1 million, fully licensed international airport to be planned for. These decisions were based on the growth of passenger numbers from 71000 to 350000 in seven years, the expectation of continued strong growth in business demand for fly-in fly-out workers and the time required to establish local services that will encourage a higher level of local worker utilization.

The ToPH Strategic Plan 2010-2015 (adopted by Council on 28 July 2010) goal in regard to the airport states:

Goal 2 - Airport

That the Port Hedland International Airport is recognised as a leading regional airport in the area of passenger and freight movements and customer satisfaction.

Other Actions

1. Undertake upgrades to the terminal and surrounds to improve the functionality of the facility including:
   (a) Creating more common-user check in points
   (b) Improving airport security screening arrangements
   (c) Review parking options and implement an agreed Airport Parking Plan
2. Develop a Capital Improvement Plan for airport infrastructure that ensures Airport infrastructure can cater for projected growth.

Immediate Priorities

1. Complete the development of the Airport Land Development Plan and commence implementation of the key initiatives that are identified.
2. Upgrade runways, taxiways and aprons to facilitate efficient aircraft movement.
3. Progress planning and design for an upgraded and extended terminal building.

5.2. Current Demand

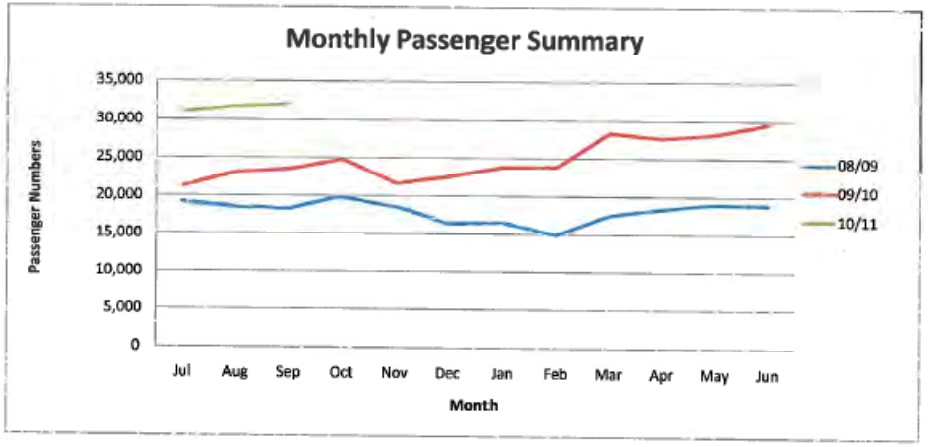
Port Hedland airport is experienceing strong passenger growth. Recent passenger data is presented in the following tables and graph:

Summary Table 08/09 - 09/10 - 10/11

	08/09	09/10	10/11
Jul	19,138	21,347	31,153
Aug	18,545	23,148	31,784
Sep	18,212	23,544	32,180
Oct	19,870	24,833	
Nov	18,594	21,750	
Dec	16,387	22,635	
Jan	16,497	23,872	
Feb	14,874	23,898	
Mar	17,446	28,381	
Apr	18,388	27,718	
May	19,080	28,241	
Jun	18,909	29,574	
Y.T.D	215,940	298,941	95,117

10/11 data entry table

	Qantas	Skywest	Karratha F/S	Airnorth	Strategic
Jul	22,632	1,324	243	210	
Aug	21,904	1,021	326	310	836
Sep	21,612	1,154	336	310	1,383
Oct					
Nov					
Dec					
Jan					
Feb					
Mar					
Apr					
May					
Jun					



5.3. Passenger Demand and Future Proofing of Development Concept

With the airport currently handling almost 400,000 passengers over the past year and given the confidence of a variety of business and community stakeholders with increasing economic activity in the resource sector supporting further passenger growth, the prospect of the airport reaching 600,000 passengers per annum by 2015 as flagged by previous master planning consultants, Airport Master Plan Consultants, appears to be not unrealistic.

Further growth towards the Airport Committee vision of 1,000,000 passengers by 2025 would represent 6% average annual growth from the current base.

As these projections represent on-going strong growth over a 15 year period, it should be understood that to sustain this level of growth over such a long period may be unrealistic. In terms of terminal expansion, therefore, a staged development towards a future concept which could accommodate the 2025 vision would amount to a prudent and “future-proofed” approach to development.

5.4. Master Plan

The ToPH has prepared and recently issued for comment a draft Master Plan for the Airport. A focus of the draft Master Plan, prepared for the Town of Port Hedland by Parsons Brinkerhoff & Whelans Town Planning, is to provide security to airport related land uses and the protection of operational aspects of the airport.

The airport terminal precinct, Precinct 1 as identified in the draft Master Plan, encompasses the airport terminal and the surrounding airport related commercial leases, extending to the north beyond the Bureau of Meteorology site. The site is bound by Great Northern Highway to the east, and a runway to the west. The southern boundary for this precinct has been defined by the town planning and engineering considerations to the south, and the location of the existing Council work depot.

The Airport terminal is located approximately 13 kilometres from the town centre of Port Hedland, and some 10 kilometres from the centre of South Hedland.

The proposal to expand the airport passenger terminal and to develop car parking and other airport specific commercial developments in Precinct 1 is consistent with the Airport Committee's direction to the Project Team to prepare a concept design for passenger terminal expansion.

5.5. Site Constraints

The Airport Committee identified that expansion of the terminal potentially occurring to the east, to the west and to the landside should be considered within the concept design scope. Extensions upward into a second level would also be considered.

The Airport Committee noted that consideration of other potential terminal sites was not part of the scope of the terminal expansion project.

5.6. Existing Facility Limitations

The Airport Committee and Airport Management noted that there were a number of shortcomings with the existing terminal facilities including but not limited to:

- Limited building depth for optimum facilitation arrangements
- Limitations on the throughput of international passengers
- Limited retail offering (scale, positioning and mix)
- Segregated check-in facilities
- Constraints on security point
- Limitations on departure lounge facilities
- Inadequate airline lounge facilities
- Limited car rental facilities
- Out-dated services including CCTV
- Inadequate dock and storage facilities

5.7. Proposed Facilities

The Airport Committee was briefed on design aspects of contemporary passenger terminal including:

- Combined international/domestic terminal layouts
- "Swing" facilities – where terminal facilities and spaces are used to efficiently manage peak activities
- New technologies being adopted for check-in, security and border agency screening
- Terminal layouts for optimized retail penetration
- Wider precinct commercial opportunities consistent with modern airport layouts and suited to Port Hedland's particular requirements

The Airport Committee noted that these considerations and opportunities should be considered in the concept design stage of the terminal expansion project.

5.8. Stakeholder Consultation

Airport Management and the ToPH assisted with the identification and contact details of stakeholders potentially relevant to the expansion of the airport terminal.

5.9. Outcome of Specific Consultations

The outcome of consultations with the airport owner and operator is summarised in the following table:

Airport Committee	Committee members	Design Horizon 2025 Target Passenger throughput 1 milliion passenger per annum (current approx 400,000 pa) Address car parking requirements as a priority Consider: • Terminal expansion eastwards, westwards and towards car park • Opportunity for swing facilities Possibility of commercial office and hotel development within the precinct
Airport Manager	Mr Bob Couzens	Areas for improvement: • Departures facilities/toilets • Upgrading from restricted international licence • Common use check-in • Club lounge expansion (particularly Qantas) • Upgraded Airservices facilities and operations with passenger threshold exceeded • Possible additional rental car facilities • Retail study to consider gift, newsagent, duty free & ATM over and above existing Food & Beverage retail offering • CCTV system coverage and amenity • Asbestos, mechanical services condition, other service capacities to be considered
Town of Port Hedland – planning and commercial	Ms Jasmine Person, Serge Doumergue Jenella Voitkevich	Meeting with Airbiz & ToPH officers in PHE on 10 Nov 2010 • Stated there was a high demand for retail/commercial office space. • Has current enquiries for 6000 sq mt office space and 5000 sq mt retail space • Would like to fastrack the development of 3000 sq mt office space and lease to mining companies for a 5 year period • suggested strong demand for meeting/conference space at airport • stated that current market rates are: o retail $440/sqmt inc. GST + outgoings o new office $660/sqmt inc. GST o old office $550/sqmt inc. GST • stated multi-storey carpark would not happen • a hotel would cause infrastructure issues and therefore would not be feasible • accepted that the needs/demands and use of terminal at PHIA is not necessarily the same as similar sized terminals due to high component of FIFO's and lack of tourism in greater community

		• currently renegotiating leases with car rental companies and suggested that there is an opportunity to expand to six providers
		• is looking at increasing booth size in terminal for the car rental companies
		• supported need for presence in terminal to include:
		  o F+B
		  o News/gift
		  o Tourism
		  o Car rental
		  o Airline lounges
		• Supported need for “wall of ATM’s” & currency exchange
		• Suggested that any commercial offers in airport precinct shouldn’t conflict with downtown offers
		• Stated that there were no sub-leases within terminal
		• Supported inbound/outbound duty free offer
		Will supply contact details for car rental companies

6 Business and Community

Several business and community groups were identified amongst key stakeholders and approached to understand passenger demographics and community expectations in regard to airport facilities and amenities, and other relevant factors.

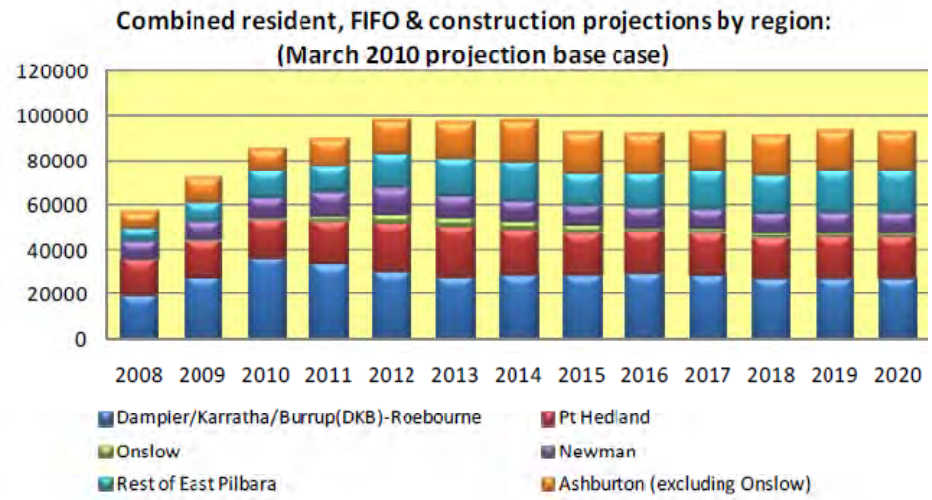
Several organisations provided feedback through meetings and other direct communication:

- BHP Billiton
- FMG
- Rio Tinto
- Port Hedland Visitor Centre
- Port Hedland Chamber of Commerce Inc – including views received from several PHCCI constituents.

There is broad support from Business and Community groups for improved airport facilities including:

- Terminal expansion to meet additional demand and to facilitate improved services and air route opportunities
- Upgraded lounge facilities
- Retail variety and amenity
- Kerbside and parking facilities
- Commercial developments such as hotel, business centre and office within the airport terminal precinct
- Continued support facilities for charter operations

The major resource industry companies identified projected strong growth in direct and indirect employment requiring an appropriate infrastructure response within the community generally and the airport specifically. Evidence of this expected growth was provided by BHP Billiton in the form of industry sponsored report which focussed on resource industry projected population affects relevant to the Pilbara region:



Source: *Heuris Partners Ltd March 2010 Report provided by BHP Billiton*

FMCG also noted strong projected workforce growth

6.1. Tourism

The Port Hedland Visitors Centre expressed interest in establishing a presence within an expanded airport terminal to facilitate better promotion of the town and region to visitors. The Visitor Centre also is supportive of improved retail services and outlets operating at the terminal and its associated precinct to assist in lifting the image of services available within the town.

6.2. Outcome of Specific Consultations

The outcome of consultations with business and community stakeholders is summarised in the following table:

FMG	Vicki James	• FMG has 350 staff currently working in area with a proposed expansion of up to 800 within short period • A high percentage of these staff will be local residence rather than FIFO's • DJ is FMG's current preferred carrier (all their staff are Gold Members therefore high demand on lounge facilities) • With expansion in workforce see the opportunity to engage with DJ to use larger planes rather than more services • FMG have their own 18 seat plane which transports indigenous staff only (mainly to Cloudbreak) • Sees current issues with airport to be: o lack of covered footpaths between terminal and carpark o lack of area for airline lounges (especially during delays) o shaded area at kerbside whilst waiting for pick-up o limited bus zone access for group pick-ups o security of cars during long-term stays o terminal in not child friendly • stated that ancillary businesses are growing as a result of the expansion in mining • stated that a lot of their staff are ex Brisbane (where a similar skill set is prevalent) • believes that opportunities are being missed by the lack of presence in terminal from the Visitors Centre to inform FIFO's what they can do on their RDO's • stated that a lot of their staff are very IT savvy • suggested the following would be desirable at airport: o gifts/news - wider variety of foods o duty free - IT/electronic store o Car wash/detail facility - Boarding facilities for pets o Hangar space o Convenience store - - Lockers/storage • Supported survey opportunity with FIFO's to advise of what they feel is missing • Suggested contacting Andre Bush from the Port Authority • Capacity for additional commercial flights • Parking and secure parking options with cement footpaths to these areas • Club lounge waiting area • Shade outside the terminal waiting areas Meeting FMG & Airbiz 10 Nov 2010 in PHE – see Retail & Commercial Study for detailed feedback

BHP Billiton 	Patrik Mellberg; Gerry Gorman	• Industry initiated Pilbara demographic study provided • On-going requirement for BHP charter flights ex PHE to Newman etc using Karratha Flying Service, Heliwest etc Meeting BHPB & Airbiz 10 Nov 2010 in PHE – • Suggested retail needed to provide range of choices other than just a bar at airport • Keen on improving airline lounges with high number of staff users • Very strong on the need to separate the "drinkers in the bar" from family groups within terminal • Suggested child amusement centre/playground would be valued by their staff within the terminal • Felt need for better food choices and quality • Suggested that there should be outside areas for general public not just for the smokers • Patrick will provide us with HR data on demographics of workforce • Patrick offered to distribute a survey amongst their staff to obtain feedback on what they would like to see at airport • Suggested other services within terminal could include: o medical centre o gifts/tourist information o news/books o convenience/personal hygiene o vending o lockers/storage for FIFO to leave work gear o short stay hotel o shower facilities o IT access o Hangar facilities for light aircraft (have staff who have enquired re flying up from PER)
Rio Tinto (Dampier Salt Ltd) RioTinto	Scott Mathewson	Contact initiated through Scott Mathewson in Port Hedland – requirements include: • Additional check in counters • Larger café / bar facility. Improved outdoor area. Entertainment TV's installed • Internet café / access • Improved International facility, luggage collection and customs area

Port Hedland Port Authority	Andre Bush Katerina Businoska	**General comment** Additional increase in the local population is necessary for new resource projects and port development projects to proceed in the Pilbara region. The Pilbara region has a large number of transient workers (including FIFO) and this population accounts for a significant proportion of the population in many Pilbara towns including Port Hedland. Within the Port Hedland area, the PHPA and current and emerging port users have a number of significant port development projects planned which will require additional workforce to deliver those projects over the next 3 to 5 years. The PHPA is also planning for an increase in port staff to ensure the port can operate at the current growth levels and a further boost to staff numbers to facilitate and operate a Port in excess of 800 million tonnes per annum. The proposal to develop a Master Plan to expand the Port Hedland International Airport to support the growth in population and transient workers is fully supported by PHPA. The Master Plan and concept design for the airport should consider requirements to the 2025 timeframe and beyond to ensure we are planning well ahead for the future and not just current pressures we are facing. **Preservation of strategic areas** Appropriate protection mechanisms should be applied to strategic areas in the Pilbara which are required to be preserved and protected by the State. The PHPA supports a protection mechanism to be applied over the proposed expansion area for the Port Hedland International Airport. It is also important to consult with the Department of Regional Development and Lands (State Land Services) as they are responsible for allocating Crown Land for specific projects and they need to ensure that there are no conflicting issues with other land uses planned within the proposed expansion area or in close proximity. **Passenger demand** Please note that PHPA does not have information on passenger demand. The Department of State Development should have this information as they are aware of all project developments planned within the Pilbara region, and the Department of Planning should also be able to advise their views on population growth. **Potential for air cargo** The proposed airport expansion should take into consideration the potential to handle air cargo. To reduce impacts on the road freight network, consideration should be given to providing adequate facilities to facilitate growth in air cargo transportation. This will enable goods such as food (perishable and non-perishable), household goods (e.g. furniture) and other heavy or bulky goods to be transported by air rather than by road or ship. The proposal to accommodate air cargo fits in with PHPA's port plans for a general cargo hub for the North West initially catered for over the existing 3 public berths on the Port Hedland town side of the port, expanding rapidly in the coming years via the Lumsden Hub and SW Creek berths. These will also service urgent deliveries to the offshore oil and gas industry. In the future potential exists for a much larger transhipment port (similar to the Port of Salalah in Oman). The strong transport and infrastructure links between air and sea could be beneficial to the region. If at all possible future planning should cater for this potential.

		Comment on design vision and associated facilities • Need for adequate parking area. Current parking area is insufficient. • There is a significant impact on the community, workers/visitors and the region as there is a serious accommodation shortage in Port and South Hedland. Additional hotel accommodation of good standard in close proximity to the Port Hedland International Airport would help alleviate accommodation pressures. • Need for major general amenity improvements. • Need for improved seating. • Need for improved VIP lounges. The existing VIP Qantas lounge is very very small currently and needs to be expanded. A Virgin VIP lounge should also be accommodated. • Need for Duty Free shopping, adequate cafes and restaurant facilities. • Need for improved entry and exist between the airport and the planes. An airbridge arrangement should be considered. • Need for improved luggage handling to ensure its managed in a more streamlined way.
Port Hedland Chamber of Commerce PORT HEDLAND Chamber of Commerce Inc		Constituents contacted. 3 responses received: • Designtech – offering engineering and design/drafting services • Bullbuck (ground transport service provider) – increased/improved parking for shuttle services; F&B service hours to meet delayed flights; improved view amenity from terminal • Glenys Pike – proposal for news/lotto/duty free outlet at airport terminal Further discussions between CCI & Airbiz occurred on 9 Nov 2010 in Port Hedland
Port Hedland Visitor Centre PORT HEDLAND Visitor Centre	Peter Wood & Julie Broad	• Meeting between PHVC & Airbiz on 9 Nov 2010 in PHE • Indicated interest in Visitor Centre presence within expanded terminal • raised lack of accommodation and lack of affordable accommodation in town as restricting tourism growth (mining companies block book hotels) • suggested that the FIFO do not spend a lot of money in town • Peter has recently commenced a shuttle service from airport targeting FIFO's. • Would like to get presence within terminal • Believe that good quality coffee/food is needed at airport • Mentioned that BHP spend 1% of their GP back into community • Weren't supportive of the need for additional meeting rooms at airport • Stated that long term parking has high demand at airport • Suggested that the airport could become a retail hub for the community with certain services not provided currently in town (these included dry cleaners, butchers, bakery, commercial offices)

7 Airlines

The engagement in the design process and support from airlines is considered fundamental to the success of any airport terminal development project. A table of existing RPT services at Port Hedland is included below. Consequently airlines were approached to obtain their views and plans for future operations at Port Hedland.

Input was received from the following airlines:

- Qantas
- Virgin Blue
- Strategic
- Airnorth

At the time of preparing this draft report, input was still awaited from Skywest Airlines.

Melbourne-based low cost carrier Tiger Airways indicated that there may be interest in operating through Port Hedland in the future.

Perth-based charter operator Maroomba provided input relevant to charter operations through Port Hedland airport.

There is acknowledgement from airlines of passenger growth and route development opportunities through Port Hedland airport:

- Qantas flagged potential busy hour growth – to 2 x B737-800 aircraft
- Qantas further identified the possible future operations with wide-bodied aircraft of B767/A330/B787 types - Note: only In lieu of rather than additional to the two narrow bodied B737 aircraft requirement identified above.
- Virgin Blue flagged potential introduction of some direct eastern states and international services. Also a possible overnight aircraft parking requirement was also identified.
- Lounge developments for Qantas and possibly Virgin Blue (together with a partner airline)
- Opportunities for application of new technologies in check-in processes
- Ongoing back-of house office requirements with good access to CBS and baggage make-up

- Increased technological demands as new technologies are introduced.
- Vehicle parking requirements and amenities for use by ground handling agents
- Strategic supports the expansion of international passenger facilities and the removal of restrictions to enable full international services for A320 aircraft

Airlines are supportive of terminal improvements at Port Hedland but stressed that they wish to be consulted regularly as concept plans are developed and before any commitment to new developments is made.

7.1. Departures Facilities

Qantas has indicated a future move to self serve check-in facilities similar to those currently being introduced in Perth and Sydney. Use of this type of technologies offers spatial, staffing and process time efficiencies which can assist with passenger experience and can indirectly lead to improved airside retail results.

Similarly, Virgin Blue identified a potential move from traditional check-in to their standard self-serve kiosk with bag drop.

Strategic and Airnorth also remained open to introducing new check-in technologies to deliver process improvements and efficiencies.

The airlines are supportive of airside retail and the establishment of airside airline lounges as this concept assists with airline on-time performance.

7.2. Lounge Facilities

Both Qantas and Virgin Blue identified lounge requirements.

Specific details of Qantas lounge requirements remain outstanding at the time of preparing this report.

While Virgin Blue identified a possible 300 square metre requirement, it was non-committal on whether that would be needed at the completion of the terminal extensions or rather as a planning allocation for future expansion. Virgin Blue flagged a possible partner airline involvement in any new lounge facilities.

Strategic currently has arrangements with Qantas for use of the Qantas lounge. Strategic would either continue with this arrangement or is potentially interested in a future common lounge offering.

7.3. Other Facilities

Reference to possible wide bodied aircraft operations, passenger movements to and from aircraft, GSE parking and other requirements relevant to the aircraft parking apron were made by various airlines.

These airside requirements should be considered during terminal expansion concept planning and design in terms of apron layouts and operational plans.

	Arrivals			Departures		
	Flight	**ETA**	**FROM**	**FLIGHT**	**ETD**	**TO**
Monday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	Qantas 1110	8:25	PER	Qantas 1111	9:05	PER
	Qantas 1812	10:10	PER	Qantas 1813	10:50	PER
	Qantas 1828	12:25	PER	Qantas 1829	13:05	PER
	Qantas 1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
Tuesday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	Qantas 1110	8:25	PER	Qantas 998	9:05	MEL
	Qantas 1812	10:10	PER	Qantas 1813	10:50	PER
	Qantas 997	11:40	MEL	Qantas 1113	12:20	PER
	Qantas 1128	12:25	PER	Qantas 1829	13:05	PER
	Strategic VC510	12:40	BNE	Strategic VC210	14:15	DPS
	Air North TL355	17:00	KTA	Air North TL355	17:30	BME
	Qantas1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
Wednesday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	Qantas 1110	8:25	PER	Qantas 1111	9:05	PER
	Strategic VC211	9:55	DPS	Strategic VC511	12:05	BNE
	Qantas 1828	12:25	PER	Qantas 1829	13:05	PER
	Qantas 1814	16:10	PER	Qantas 1815	16:50	PER
	Qantas 1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
Thursday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	Qantas 1110	8:25	PER	Qantas 1111	9:05	PER
	Qantas 1828	12:25	PER	Qantas 1829	13:05	PER
	Qantas 1814	16:10	PER	Qantas 1815	16:50	PER
	Qantas 1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
Friday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	Qantas 1110	8:25	PER	Qantas 1111	9:05	PER
	Air North TL352	9:05	BME	Air North TL353	9:35	KTA
	Qantas 1828	12:25	PER	Qantas 1829	13:05	PER
	Qantas 1814	16:10	PER	Qantas 1815	16:50	PER
	Qantas 1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
Saturday	Virgin Blue DJ1837	8:05	PER	Virgin Blue DJ1840	8:35	PER
	QF 1810	8:25	PER	QF 1811	9:05	PER
	Skywest XR31	9:00	BME	Skywest XR251	10:00	DPS
	Skywest XR252	15:20	DPS			
	QF1816	17:40	PER	QF1817	18:20	PER
Sunday				Skywest XR253	8:00	DPS
	Qantas 1812	10:10	PER	Qantas 1813	10:50	PER
	Skywest XR 254	13:20	DPS	Skywest XR32	14:20	BME
	Qantas 1116	17:40	PER	Qantas 1117	18:20	PER
	Virgin Blue DJ1843	17:20	PER	Virgin Blue DJ1846	18:00	PER
	QF 1818	18:45	PER	QF 1819	19:25	PER

TABLE 7-1 RPT FLIGHT SCHEDULE - 9TH NOVEMBER 2010 - 26TH MARCH 2011

7.4. Outcome of Specific Consultations

The outcome of consultations with the airlines is summarised in the following table:

Qantas 	Darren Batty	• Communication initiated through Qantas WA manager (Rowan Chalmers) • Discussions with Adrian Boys (perth) and Darren Batty (Sydney) re future demand • Contact for Qantas Security provided (Roberta Stumpo in Sydney) **Qantas Input:** • Review of overall functions, processes and goals In the long run we expect that fewer staff will be needed and processes will be more streamlined due to technology changes • Impact of new technologies Aspects of Next Gen check-in will be introduced next year (Q-tag readers and podiums). We envisage that in the medium term Next Gen or 'future gen' by 2025, pax possibly wouldn't see any staff, only technology • Current check-in counter allocation, operations and utilisation Moving forward we'd like to have Auto Bag Drop's instead of check-in counters (auto-bag-drops - next gen technology) with little or no staffing. Therefore check-in counters will reduce rather than increase. • Current and future plans for check-in facilities and operations Moving from manpower to next gen technology - everything automated from check-in to bag drop • Current and future plans for lounge facilities — Qantas Product's review of future lounge requirements: o Sqm per pax 3.5sqm o Pax using lounge 60 pax o Lounge size ~200sqm These numbers are for high level analysis only. These numbers are based on significant growth and any increase in lounge size would only occur if it was commercial sound to invest in such a jump in space. You can treat 200sqm as your ultimate lounge size for masterplanning purposes and not for what is required currently. Qantas estimates that current requirements are around the 100sqm mark (v 45sqm existing cap). • Current boarding procedures for aircraft departures — Boarding in the future via electronic means rather than manual i.e retina scans or waving b/cards in front of scanners. — Consider boarding capability direct from larger lounge • Staff interfaces with departures and arrivals processes Less interaction as new technologies developed and less staff

		• Staff access to support / administration offices and rest areas Back office and easy access to airside • Input into high level process and detailed flow charts Please provide before we can comment • Gate requirements Plan for up to two simultaneous 73Hs or one B763/A330 in the future.
Virgin Blue 	Mr Brian Lewis; Ms Leigh Balderson	The Virgin Blue Group is currently undergoing a network review and as such my response to your request is outlined to the best of our ability at this current point in time. Key markets such as Western Australia are indeed important to our strategy moving forward and Port Hedland is well positioned to incorporate potential increases to services. To assist in your planning we deem there is opportunity to increase services to PHE of around 2-3 trans-con services per week and the potential for up to 2 international services per week, of course, this information is strictly confidential and we have not had any official decisions made as yet on these services or which routes they would be. Below is some information on the key areas for our operation, following the network review we will be better placed to discuss the actual effects for Port Hedland. **Check in** • Our current and future plans for check in counters are dependent on services to and from Port Hedland, under our current schedule the allocation of counters is sufficient for our operation • Should our schedules increase we would need to re-address the allocation and associated equipment to ensure sufficient ability to service our operation. As the allocation requirement are schedule driven, I am not currently in a position to advise if we will or will not require and increase in check in counters • Virgin is willing to work with the airport to ensure the most efficient allocation of counters etc. be that under a dedicated counter assignment or a common use environment, ensuring that any equipment installed meets the requirements of the airline • As our airline moves towards a more "self service" focus, we will be looking at opportunities to potentially install kiosks in the terminal, this would most likely be our standard kiosk offering which offers check in and seat allocation functionality whilst the check in of baggage would be conducted via a standard check in counter Lounge Facilities • Even though Port Hedland is viewed as a key port in the Virgin Blue Group, we do not have an immediate need for a lounge facility, however, we would request that during the planning stages, Port Hedland keeps in mind that our Airline may in fact wish to include Port Hedland on its list of Airports that offers some form of Lounge facility be that solely Virgin or a joint lounge with other carriers. **Office Space / Rest Areas** • Virgin or our GHA will require access to an office facility in order to manage the day to day operational matters, under normal circumstances a space of around 25-30sqm would be suitable, but as per above this is also

		driven by schedules and staffing levels. • We would also require a suitable space to install our IT server and radio communication equipment. We are happy for this to be a common use area so long as the space meets our requirements ie. suitable power supply, air conditioning etc. • Toilets, lunch areas etc. under normal circumstances we look at utilising common use space for standard amenities **Security** • Office areas to be suitably secured via locking system (key, proxy access etc.) • Access to CBS and Passenger screening systems • Dependant on schedule, may require access to CCTV for any aircraft that may overnight **Vehicle Parking Requirements** • Could you please elaborate a little more on this point, are you interested in parking requirements for GSE, Staff vehicles, Aircraft parking bays??
Strategic 	Mr Phil Warth	*Review of Overall Functions, Processes and Goals* • Strategic Airlines currently believes the area of greatest concern is specific to the processing of international passengers. The current customs and border protection area is insufficient to service a full passenger load of 156 people on an Airbus A320. The introduction of a larger international passenger processing area will ensure that services can continue into the future. • The current infrastructure at the airport is not sustainable for increased domestic passenger numbers. This includes more baggage belts to cater for increased flight numbers, security screening point, passenger amenities, lounge facilities and so on. • International passenger processing is difficult currently, as referred to earlier. The federal government currently administers classification of international airports via the 'International Airports Operators Guide' which defines the standard for international classified airports. This process also allows for government funding to be assigned to the port for inclusion of border agency services. The issue with this is the infrastructure requirements required to establish a full international port are fairly capital intensive. The government has granted ongoing international status to other airports, namely Coolangatta Airport, without going through this process previously. Strategic Airlines suggests that the Gold Coast airport is used as a case study and applications developed from that point. As an aside, the last airport to go through the full process was Cairns International approximately 15 years ago, there may be some value in referring to them also. *Impact of New Technologies* • Strategic Airlines is reviewing a number of options for the introduction of new technologies to the business. These are in the main from a passenger experience and check-in processing perspective. These include the introduction of kiosk/next generation check-in facilities at ports, and the introduction of departure control systems that work in a common user terminal environment. These technologies will allow for significant

		efficiencies in passenger processing. • At this stage Strategic Airlines cannot further define requirements without engaging on specific planned airport technology introductions. *Current Check-in Counter Allocation, Operations and Utilisation* • The current check-in counter allocation and utilisation at Port Hedland airport is sufficient to service operations for our current schedule. Utilisation may be improved over time with the introduction of CUTE. *Current and Future Plans for Check-in Facilities and Operations* • Please refer to impact of new technologies above for further information. *Current and Future Plans for Lounge Facilities* • Currently Strategic Airlines utilises the Qantas Lounge at Port Hedland airport. The lounge in itself requires a larger space, and a refurbishment, which is most likely at Qantas' expense. • Future plans Strategic would like to be involved in a common user lounge on the current schedule. If Strategic were to increase number of services to Port Hedland opportunity for a Strategic branded lounge would be reviewed. *Current Boarding Procedures for Aircraft Departures* • Boarding procedures are currently difficult from an OH&S perspective for all departing aircraft. Passengers currently move from the terminal directly to the aircraft via the tarmac. Two issues arise with this – departing aircraft and risk of jet blast to passengers, monitoring passengers in a secure zone of the airport is difficult to maintain. A good example of full stand off for passenger movements is the Gold Coast airport updates where shelter is maintained for passengers and protected direct lines in place. • Disembarking procedures also have the same issue, however, somewhat enhanced due to the baggage belt being at the very far end of the terminal. *Staff Interfaces with Departures and Arrivals Processes* • Similar issues as discussed in the procedures above. Other than that the staff interface within the airport environment is achieved to a satisfactory standard currently due to the size of the terminal. *Review Adjacencies of Functional Areas Including Inputs (dependencies) and Outputs* • Further clarification of the request is sought by Strategic Airlines for this question. *Staff Access to Support / Administration Offices and Rest Areas* • Currently Strategic Airlines have no requirements for support or administration offices at the terminal. • Longer term, dependent on Strategic Airlines schedule expansion, there may be a requirement for a crew rest / administration area, however a common user area would be a workable solution as long as IT infrastructure between all stakeholders can be agreed to.

		Input into High Level Process and Detailed Flow Charts / Identification of Exceptions and How They are to be Handled / Fallback Procedures if Appropriate • Further clarifications of the requests detailed above are sought by Strategic Airlines. A number of items Strategic would like to have input on, however a better understanding of what is requested is required prior to an accurate response is given. *Vehicle Parking Requirements* As stated above Strategic have no permanent staff based in Port Hedland currently. If operations were to expand this situation may change, however our Ground Handler currently completes this service on the airlines behalf. One item to consider is the ongoing storage of GSE airside and increasing schedules requires increasing amounts of equipment.
Skywest	Mr Richard Pickford	Contact initiated through Mr Terry Cooper and Richard Pickford in Perth • Advice remains outstanding
Air North	Ms Tanya Cason	Contact initiated through Simone Saunders, David Gooch and Tanya Cason in Darwin • Currently Airnorth is operating E170 – 76 seater aircraft into PHE, and don't envisage increasing the aircraft size in the near future. • At present Airnorth has no proposed routing changes that would include PHE in any other services. • Airnorth current and potential future use of check-in counters would be for 2 staff and 1 service desk • Currently utilise check-in counters do not envisage using kiosks • Web check-in with a bag drop (future requirement) • Nil requirements for lounge facility • Gate access – 1 boarding gate use forward stairs on aircraft only • Boarding gate 1 staff required/ / Arrivals 1 staff required
Tiger Airways	Michael Jarvis	Possible interest in future services expressed

Maroomba' 	Mr Steve Young	• Ongoing adhoc charter on Govt, commercial and medivac business anticipated • Requires continuing landside/airside access to suitable apron parking preferably in proximity to terminal

8 Government Agencies

With the existing terminal operating only limited international services, the airport's vision of increased international capacity and services is dependent on cooperation from Federal border agencies and support from State organisations.

During the consultation process, input was sought from:

- Australian Quarantine and Inspection Service (AQIS)
- Australian Customs Service (ACS), and
- Department of Immigration and Citizenship (DIAC)
- WA Department of Transport

Advice from Federal border agencies provided reference to the joint agency publication ***International Airport Operator's Guide - Version 1.2.1***

This Guide provides information and advice on accommodation and infrastructure requirements for:

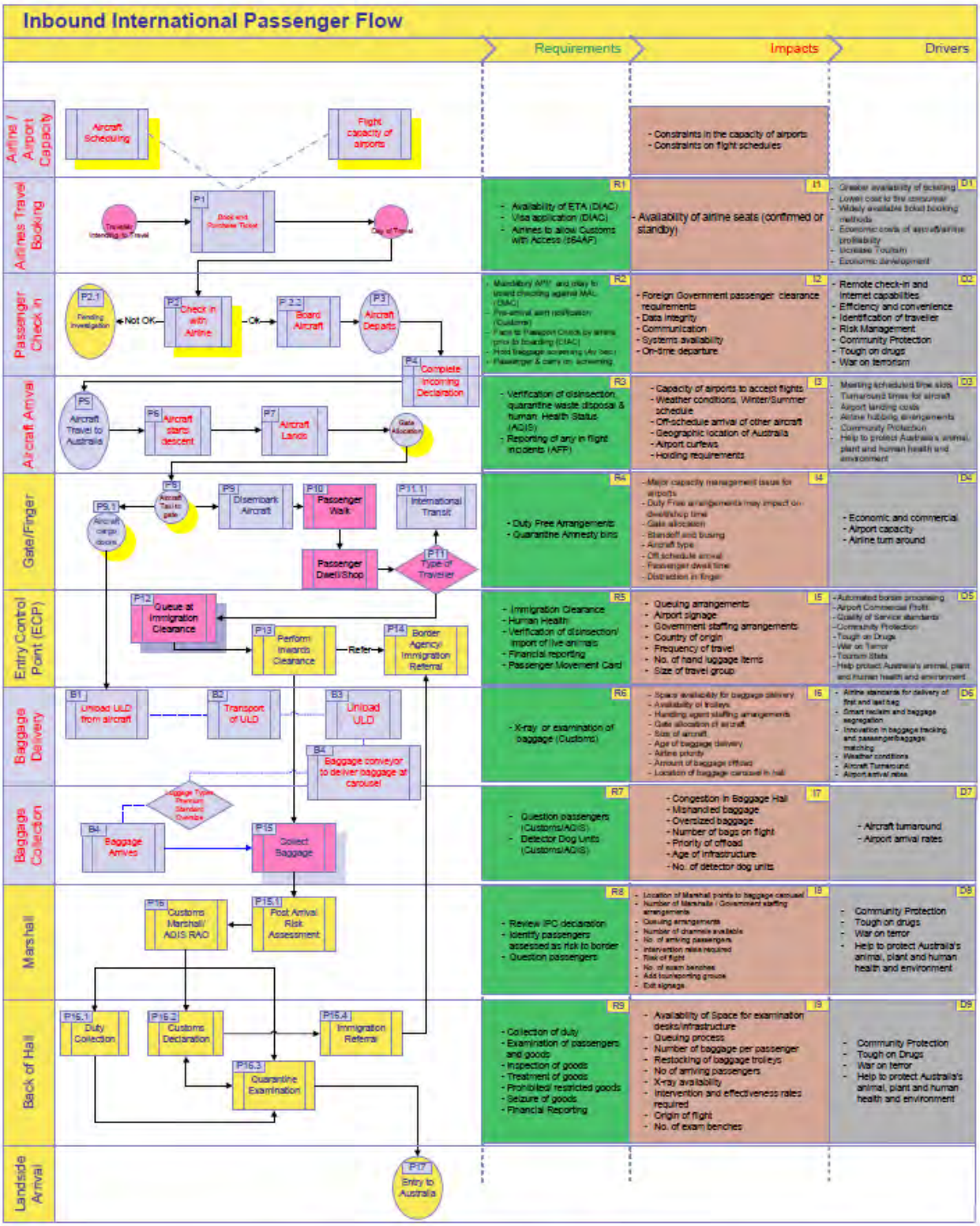
(a) existing international airport operators in relation to day to day agency requirements and for the purposes of planning refurbishment or redevelopment of airport terminals; and

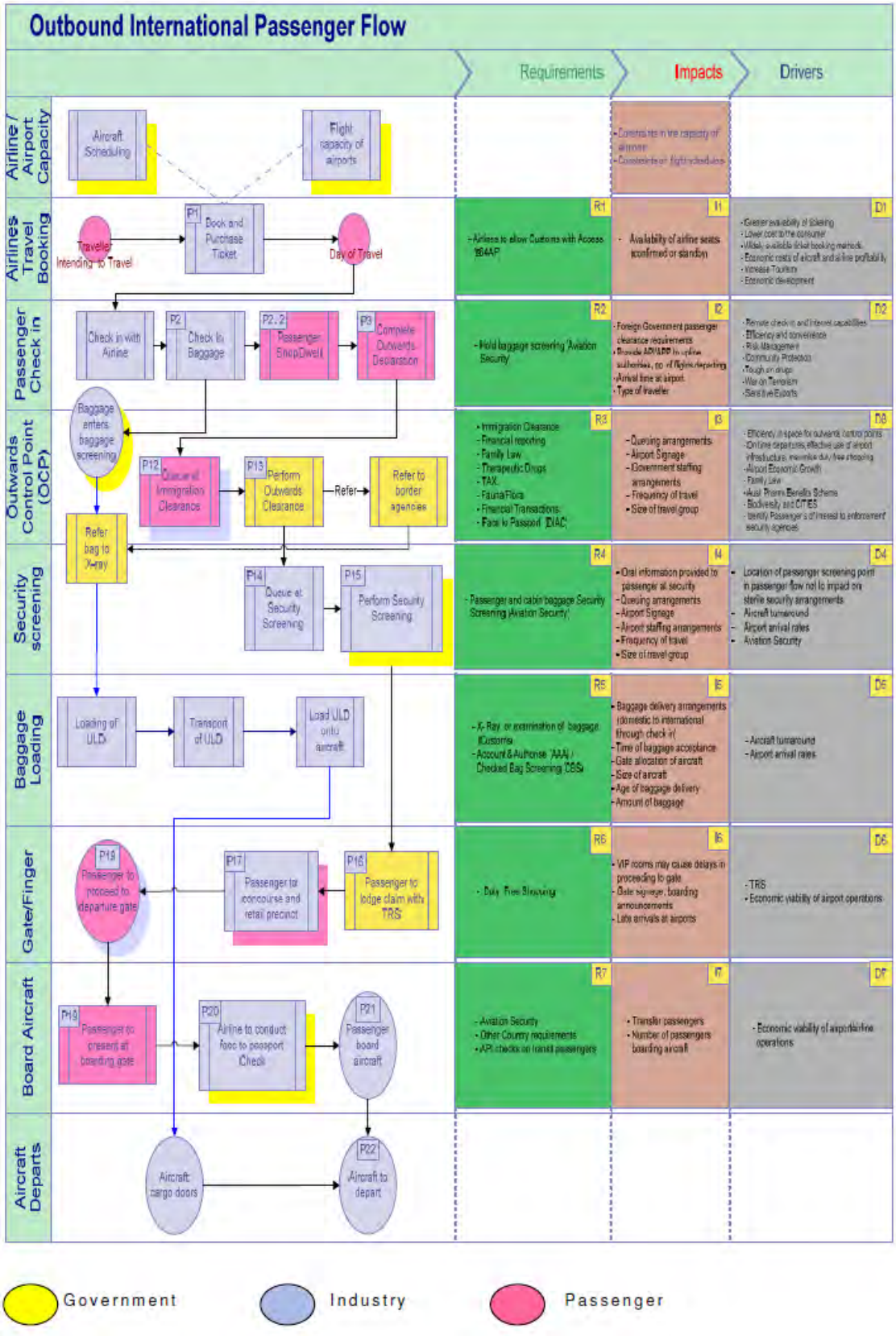
(b) airport operators planning to process regular international flights.

Existing and prospective international airport operators are responsible for the provision of adequate facilities to enable border and border related agencies to process arriving and departing passengers, and the goods they bring with them, in a secure environment.

8.1. Passenger Processing

The following flowcharts represent the interrelationship between Government, industry and passengers, and provides a 'whole of airport' business process for international passenger flow in terminals.


Inbound International Passenger Flow
Requirements
Impacts
Drivers
Airline / Airport Capacity
Aircraft Scheduling
Flight capacity of airports
- Constraints in the capacity of airports
- Constraints on flight schedules
Airlines Travel Booking
P1
Book and Purchase Ticket
R1
- Availability of ETA (DIAC)
- Visa application (DIAC)
- Airlines to allow Customs with Access (s64AF)
I1
- Availability of airline seats (confirmed or standby)
D1
- Greater availability of ticketing
- Lower cost to the consumer
- Widely available ticket booking methods
- Economic costs of aircraft/airline profitability
- Increase Tourism
- Economic development
Passenger Check in
P2.1
Pending Investigation
Not OK
P2
Check in with Airline
OK
P2.2
Board Aircraft
P3
Aircraft Departs
R2
- Mandatory APP and plan to board checking against MAL (DIAC)
- Pre-arrival alert notification (Customs)
- Face to Passport Check by airline prior to boarding (DIAC)
- Hold baggage screening (by Customs)
- Passenger & carry on screening
I2
- Foreign Government passenger clearance requirements
- Data integrity
- Communication
- Systems availability
- On-time departure
D2
- Remote check-in and internet capabilities
- Efficiency and convenience
- Identification of traveller
- Risk Management
- Community Protection
- Tough on drugs
- War on terrorism
Aircraft Arrival
P4
Complete Incoming Declaration
P5
Aircraft Travel to Australia
P6
Aircraft starts descent
P7
Aircraft Lands
Gate Allocation
R3
- Verification of disinsection, quarantine waste disposal & human Health Status (AQIS)
- Reporting of any in flight incidents (AFP)
I3
- Capacity of airports to accept flights
- Weather conditions, Winter/Summer schedule
- Off-schedule arrival of other aircraft
- Geographic location of Australia
- Airport curfews
- Holding requirements
D3
- Meeting scheduled time slots
- Turnaround times for aircraft
- Airport landing costs
- Airline hubbing arrangements
- Community Protection
- Help to protect Australia's animal, plant and human health and environment
Gate/Finger
P8
Aircraft Taxi to gate
P9
Disembark Aircraft
P10
Passenger Walk
P11.1
International Transit
P9.1
Aircraft cargo doors
Passenger Dwell/Shop
P11
Type of Traveller
R4
- Duty Free Arrangements
- Quarantine Amnesty bins
I4
- Major capacity management issue for airports
- Duty Free arrangements may impact on dwell/shop time
- Gate allocation
- Standoff and busing
- Aircraft type
- Off schedule arrival
- Passenger dwell time
- Distraction in finger
D4
- Economic and commercial
- Airport capacity
- Airline turn around
Entry Control Point (ECP)
P12
Queue at Immigration Clearance
P13
Perform Inwards Clearance
Refer
P14
Border Agency/ Immigration Referral
R5
- Immigration Clearance
- Human Health
- Verification of disinsection/ import of live animals
- Financial reporting
- Passenger Movement Card
I5
- Queuing arrangements
- Airport signage
- Government staffing arrangements
- Country of origin
- Frequency of travel
- No. of hand luggage items
- Size of travel group
D5
- Automated border processing
- Airport Commercial Profit
- Quality of Service standards
- Community Protection
- Tough on Drugs
- War on Terror
- Tourism Stats
- Help protect Australia's animal, plant and human health and environment
Baggage Delivery
B1
Unload ULD from aircraft
B2
Transport of ULD
B3
Unload ULD
B4
Baggage conveyor to deliver baggage at carousel
R6
- X-ray or examination of baggage (Customs)
I6
- Space availability for baggage delivery
- Availability of trolleys
- Handling agent staffing arrangements
- Gate allocation of aircraft
- Size of aircraft
- Age of baggage delivery
- Airline priority
- Amount of baggage offload
- Location of baggage carousel in hall
D6
- Airline standards for delivery of first and last bag
- Smart reclaim and baggage segregation
- Innovation in baggage tracking and passenger/baggage matching
- Weather conditions
- Aircraft Turnaround
- Airport arrival rates
Baggage Collection
Baggage Types (Normal, Standard, Oversize)
B4
Baggage Arrives
P15
Collect Baggage
R7
- Question passengers (Customs/AQIS)
- Detector Dog Units (Customs/AQIS)
I7
- Congestion in Baggage Hall
- Misthandled baggage
- Oversized baggage
- Number of bags on flight
- Priority of offload
- Age of infrastructure
- No. of detector dog units
D7
- Aircraft turnaround
- Airport arrival rates
Marshall
P16
Customs Marshall/ AQIS RAO
P15.1
Post Arrival Risk Assessment
R8
- Review IPC declaration
- Identify passengers assessed as risk to border
- Question passengers
I8
- Location of Marshall points to baggage carousel
- Number of Marshalls / Government staffing arrangements
- Queuing arrangements
- Number of channels available
- No. of arriving passengers
- Intervention rates required
- Risk of flight
- No. of exam benches
- Add tour/sporting groups
- Exit signage
D8
- Community Protection
- Tough on drugs
- War on terror
- Help to protect Australia's animal, plant and human health and environment
Back of Hall
P15.1
Duty Collection
P16.2
Customs Declaration
P15.4
Immigration Referral
P16.3
Quarantine Examination
R9
- Collection of duty
- Examination of passengers and goods
- Inspection of goods
- Treatment of goods
- Prohibited/ restricted goods
- Seizure of goods
- Financial Reporting
I9
- Availability of Space for examination desks/infrastructure
- Queuing process
- Number of baggage per passenger
- Restocking of baggage trolleys
- No of arriving passengers
- X-ray availability
- Intervention and effectiveness rates required
- Origin of flight
- No. of exam benches
D9
- Community Protection
- Tough on Drugs
- War on terror
- Help to protect Australia's animal, plant and human health and environment
Landside Arrival
P17
Entry to Australia
Government
Industry
Passenger


Outbound International Passenger Flow
Requirements
Impacts
Drivers
Airline / Airport Capacity
Aircraft Scheduling
Flight capacity of airports
Airlines Travel Booking
Traveller Intending to Travel
P1 Book and Purchase Ticket
Day of Travel
Passenger Check in
Check in with Airline
P2 Check In Baggage
P2..2 Passenger Enquiry
P3 Complete Outwards Declaration
Outwards Control Point (OCP)
Baggage enters baggage screening
P12 Queue at Immigration Clearance
P13 Perform Outwards Clearance
Refer
Refer to border agencies
Refer bag to X-ray
Security screening
P14 Queue at Security Screening
P15 Perform Security Screening
Baggage Loading
Loading of ULDs
Transport of ULD
Load ULD onto aircraft
Gate/Finger
P19 Passenger to proceed to departure gate
P17 Passenger to concourse and retail precinct
P16 Passenger to lodge claim with TRS
Board Aircraft
P18 Passenger to present at boarding gate
P20 Airline to conduct face to passport Check
P21 Passenger board aircraft
Aircraft Departs
Aircraft cargo doors
P22 Aircraft to depart
R1
- Airlines to allow Customs with Access 'I64AP'
I1
- Availability of airline seats (confirmed or standby)
D1
- Greater availability of ticketing
- Lower cost to the consumer
- Wider available ticket booking methods
- Economic costs of aircraft and airline profitability
- Increase Tourism
- Economic development
R2
- Hold baggage screening (Aviation Security)
I2
- Foreign Government passenger clearance requirements
- Arrival time at airport
- Type of traveller
D2
- Efficiency and convenience
- Risk Management
- Community Protection
- Tough on drugs
- War on Terrorism
- Sensitive Exports
R3
- Immigration Clearance
- Financial reporting
- Family Law
- Therapeutic Drugs
- TAX
- Fauna/Flora
- Financial Transactions
- Face to Passport (DIAC)
I3
- Queuing arrangements
- Airport Signage
- (Government staffing arrangements
- Frequency of travel
- Size of travel group
D3
- Efficiency in space for outwards control points
- On time departures, effective use of airport infrastructure, maximise duty free shopping
- Airport Economic Growth
- Family Law
- Australian Benefits Scheme
- Biodiversity, and CITES
- Identify Passengers of interest to enforcement security agencies
R4
- Passenger and cabin baggage Security Screening (Aviation Security)
I4
- Oral information provided to passenger at security
- Queuing arrangements
- Airport Signage
- Airport staffing arrangements
- Frequency of travel
- Size of travel group
D4
- Location of passenger screening point in passenger flow not to impact on sterile security arrangements
- Aircraft turnaround
- Airport arrival rates
- Aviation Security
R5
- X-Ray or examination of baggage (Customs)
- Account & Authorise 'AAA' / Checked Bag Screening (CBS)
I5
- Baggage delivery arrangements (domestic to international through check in)
- Time of baggage acceptance
- Gate allocation of aircraft
- Size of aircraft
- Age of baggage delivery
- Amount of baggage
D5
- Aircraft turnaround
- Airport arrival rates
R6
- Duty Free Shopping
I6
- VIP rooms may cause delays in proceeding to gate
- Gate signage, boarding announcements
- Late arrivals at airports
D6
- TRS
- Economic viability of airport operations
R7
- Aviation Security
- Other Country requirements
- API checks on transit passengers
I7
- Transfer passengers
- Number of passengers boarding aircraft
D7
- Economic viability of airport/airline operations
Government
Industry
Passenger

8.2. Terminal Design – Government Agency Perspective

In the design of terminal facilities to accommodate the carrying out of Government regulatory functions the following is relevant:

8.3. Design Objectives

Each functional element should be flexible enough to allow them to be readily and economically rearranged or expanded to meet changing demands and technologies. Potential for shared facilities for the border agencies wherever possible to foster interagency collaboration and minimise the impact on terminal infrastructure and cost to the operator. Adoption of materials that are planned, designed and suited to their function to minimise maintenance and cleaning and to maximise operational efficiency. Provision of functional areas sized and situated to meet demand in terms of expected passenger movements at peak operating periods and capable of expansion for forecast passenger and aircraft movement levels for the anticipated design horizon of the terminal.

- Planned facilities that support the safe and orderly conduct of each functional element without compromising border agencies' security or the integrity of the Australian border.
- Use of processing stations that are clearly identifiable and logically arranged to suit their functions.
- All weather facilities with appropriate climate control.
- Natural light wherever possible. Where natural light is not available, adequate artificial light is to be provided.

8.4. Terminal Infrastructure

The terminal infrastructure provided by airport terminal operators is fundamental to the level of service experienced by the passenger and significant in the measure of success that border agencies can achieve in meeting agreed processing standards and objectives. The number of processing points, queue zone areas, signage, straight-line passenger flows, baggage delivery and flexibility of the terminal to adapt to new technologies, airline requirements, airline and border agencies' initiatives are all significant elements of achieving cost effective passenger processing. The general and specific requirements are as follows.

8.5. General Requirements

- Base fit out for operations and operational support areas, ready for border agencies to occupy.
- Public toilet facilities, drinking fountains and seating in sterile processing areas.
- Data and communications, electrical, mechanical, hydraulic and fire services to support the specific requirements of border agencies' operations and administration.

8.6. Specific Requirements

Passenger Clearance

- To support border integrity and control measures, arriving and departing international and domestic passengers and their baggage are to be separated. Domestic passengers travelling on international flights through international terminals will not require separation from international passengers and their baggage.
- To support bio-security and quarantine measures, no live plants are to be placed between the aircraft and landside arrival including international transit areas.
- Multi-use or combined terminals:
  - areas that are primarily dedicated to domestic passenger flows must be able to be cleared and secured for Customs & Border Protection purposes prior to the establishment of international processing. The clearance process includes toilet facilities, retail outlets, interview rooms and any areas that might be accessible to international passengers; and
  - before the area is returned to domestic passenger use, all waste is required to be collected, transported and treated as quarantine waste by the airport operator in accordance with AQIS requirements.
  - • International passenger flows:
  - uncleared international arriving passengers are to be separated from international departing passengers; and
  - transit passengers are to be separated from arrivals prior to the Entry Control Point and directed to the departure lounge area via a security check.

- Clear lines of sight are required for all passenger processing areas, including baggage reclaim halls, to allow passengers to identify relevant processing streams and directional signage, and for border agencies to maintain observation and surveillance of passengers (including CCTV) for border protection and clearance purposes.
- Areas established under and in accordance with the *Customs Act 1901* (section 234AA) are required for use by Customs & Border Protection for questioning or searching passengers disembarking from or embarking on an aircraft, or their personal baggage; and as a holding point for such passengers.

8.7. Outcome of Specific Consultation

The outcome of consultations with government agencies is summarised in the flowing table:

Border agencies		Interaction with local representatives held during Airbiz visit on 09 Nov 2010.
	Mr Sanjay Boothalingam	Requirements document reference provided by AQIS - joint agency publication ***International Airport Operator's Guide - Version 1.2.1***
Dept of Transport WA	Ms Carole Theobald Mr Michael Kennedy	Confirmation of RADS funding in years 2010/11 and 11/12 for PHE projects including terminal upgrade

9 Other Service Providers

9.1. Retail

Retail requirements for the proposed terminal expansion were reviewed in the Commercial and Retail Demand Study undertaken by Airbiz and issued as a draft report on 24 November 2010. The draft report recommends retail area requirements for staged terminal development passenger throughput levels.

In terms of stakeholder consultation, input was provided by existing and potential future service providers and is reflected in the table below.

9.2. Car Rental operators

Six car rental service providers (including four existing and two prospective) were asked for input.

The only formal respondent was Europcar which identified industry requirements typical at airports:

- Desk access within terminal
- Ready bays with good proximity to terminal
- Additional storage with contingency space for seasonal requirements
- Wash and service facilities available nearby

McLaren indicated an interest in establishing rental car services at Port Hedland airport.

9.3. Aviation Support

Aviation Support service providers typically provide services to airlines such as:

- Ground Handling services
- Security services
- Aviation Fuel services
- Catering services

At this concept design stage, the direction provided by airlines in terms of future service requirements will dictate how these service providers respond and what their facility requirements might be.

Engagement with aviation support service providers should therefore follow the endorsement by airlines of preliminary concept design options.

9.4. Outcome of Specific Consultations

The outcome of consultations with the other service providers is summarised in the flowing table:

Rental Car		Interaction with local representatives held during Airbiz visit on 09/10 Nov 2010. Request for feedback issued to 6 companies. Response received from Europcar.
Europcar 	Eoin MacNeill	Port Hedland represents challenges for car rental companies as investing in facilities to process vehicles is difficult due to the recourse boom bust cycles. We are looking to expand into the region in the future Biggest issue is parking bays that can accommodate the fly in fly out market and wash facilities Desks spaces in terminal Staff access does not seem to be a big issue We are interested in the flow of operations and passenger movements within and without terminals Most positive steps appear to be in consulting the industry and involvement in planning and design of facilities desks, parking and back up facilities Not sure what you mean by fallback Parking is a big issue - our needs are peculiar in that the customer wants to be closest for pick up and return (given luggage etc this is understandable) however our customers tend to all come in at similar times and depart at similar times putting capacity strains on available spaces and proximity We also have the seasonal and shift patterns of our customers that lead to the need for overflow parking for short periods such as over holiday periods
Fuel Companies	Ms Julie Ingram - AirBP	Current operations do not present any significant fuel supply issues. Interested to participate subsequent to airlines input
Esplanade Hotel 	Mr Doug Gould Ms Shelley Wood	• Took over existing café operations 1 Jan 2010 • Experiencing issues with peak times. Penetration rate lower due to crowding of outlet • Flow an issue with creation of bottleneck at that end of the terminal • Sees opportunity in trying other styles of foods • Supported increased retail in terminal (particularly duty free) and a separate news/gift • Currently supplies airlines with in-flight food • When brands were mentioned didn't react strongly to this opportunity • raised issue of access for deliveries and waste into/out of existing facility • current rental agreement is a flat fee

Duty Free proponent	Ms Glenys Pyke	• Initial review has indicated that Glenys still has more investigation to make re business case for operating a duty free outlet within terminal. She needs to consider: o capital investment o return on investment o desired floor space (for outlet plus bond store) o expected revenues and margins o supply chain o legislative requirements to operate a duty free outlet o expected rents • stated that she would be happy to run a temporary site (not necessarily duty free) to determine what pax were after in range of duty free products (her initial thoughts were cigarettes and alcohol only) • Would be interested in establishing a Lotto agency within terminal. Similar to above all considerations still need investigating
Westpac	Susan Heyder	• The existing ATM installation arrangement is about 1 year into a 3 year term; extensions would be considered and subject to negotiations with ToPH • The installed ATM is running at about 3,000 transactions per month; this is well below the 10,000 transactions per month which would normally be considered the point at which some facility augmentation would be required • Westpac unlikely to consider Foreign Exchange kiosk but could consider self-serve foreign exchange through an enhanced ATM • Westpac would be interested to be further consulted during design development of the terminal expansion.

9.5. Statement of Requirements – Planning Parameters

After receiving input from a range of key stakeholders including airlines, Airbiz in consultation with Airport Management prepared a table of planning parameters for input to the concept design process. These parameters are intended to inform the spatial requirements for the assessed busy hour demand for staged development of the Port Hedland airport terminal.

Functional	Parameter	Allowance	SOURCE (ToPH confirmed or Airbiz assumed)
Passengers	Departing busy hour passengers	As per demand	
	Arriving busy hour passengers	As per demand	
	Busy hour load factor	80%	Confirmed by ToPH
	Passenger to friend ratio (departing)	1 : 0.3	Confirmed by ToPH
	Passenger to friend ratio (arriving)	1 : 0.3	Confirmed by ToPH
	Percentage of priority passengers	10%	Confirmed by ToPH
	Percentage of economy passengers	90%	Confirmed by ToPH
	Groups	0%0%	Confirmed by ToPH
Check-In & Baggage Make-up	Average priority passenger processing time	1.5 min/pax	Confirmed by ToPH
	Average economy passenger processing time	1.5 min/pax	Confirmed by ToPH
	Max. acceptable delay for priority passengers	5 mins	Confirmed by ToPH
	Max. acceptable delay for economy passengers	15 mins	Confirmed by ToPH
	Percentage of passengers with checked bags	80%	Confirmed by ToPH
	No. of checked bags per passenger with checked bags	1.2 bags/pax	Confirmed by ToPH
	No. of separations (barrows/containers) per flight	2 or 3	Baggage Consultant to confirm
Outbound Immigration (OCP)	Average passenger processing time	30 secs	Confirmed by ToPH
	Max. acceptable delay	15 mins	Confirmed by ToPH
Security	Passenger processing rate	300 pax/hr	Airbiz assumed
	Items per passenger	1.5 items	Confirmed by ToPH
	Items per friend	1 item	Confirmed by ToPH
Common Departure Lounge	Departing passenger & friends dwell time	45 mins	Confirmed by ToPH
	Arriving passengers' friends dwell time	30 mins	Confirmed by ToPH
	Percentage of passengers in common departure lounge	50%	Confirmed by ToPH
	Percentage of passengers in airline lounge	20% average 40% test	Confirmed by ToPH
	Percentage of passengers in concessions	30%	Confirmed by ToPH
	Percentage of friends airside of security	50%	Confirmed by ToPH
	Percentage of friends airside of security in common departure lounge	70%	Confirmed by ToPH
	Percentage of passengers in concessions	30%	Confirmed by ToPH
	Percentage of arriving passenger's friends in common departure lounge	20%	Confirmed by ToPH
	Proportion of passengers seated	80%	Confirmed by ToPH

Functional	Parameter	Allowance	SOURCE (ToPH confirmed or Airbiz assumed)
Common Departure Lounge	Proportion of passengers standing	20%	Confirmed by ToPH
	Area per seated passenger	1.7 m²	Confirmed by ToPH
	Area per standing passenger	1.2 m²	Confirmed by ToPH
	Retail Areas	As recommended	See Commercial and Retail Demand Paper
Airline Lounge	Area per passenger / friend	4.0 m²	Confirmed by ToPH
Inbound Immigration (ECP)	Average passenger processing time	45 secs	Confirmed by ToPH
	Max. acceptable delay	20 mins	Confirmed by ToPH
Secondary Examination	Percentage of passengers checked	100%	Confirmed by ToPH
	Percentage of passengers fully checked	50%	Confirmed by ToPH
	Average ACS search time	10 mins	Confirmed by ToPH
	Average AQIS search time	5 mins	Confirmed by ToPH
	X-Ray processing time	300 bags/hr	Confirmed by ToPH
Baggage Claim & Arrivals Hall	Claim utilisation per NB aircraft	25 mins	Confirmed by ToPH
	Claim utilisation per WB aircraft	40 mins	Confirmed by ToPH
	No. of barrows/containers per flight	3	Confirmed by ToPH
	Effective presentation length (NB)	35m	Confirmed by ToPH
	Effective presentation length (WB)	45m	Confirmed by ToPH
	Percentage of passengers with checked bags	80%	Confirmed by ToPH
	Checked bags per passenger	1.3 bags/pax	Confirmed by ToPH
	Time for first / last passenger bag (NB)	5 / 20 mins	Confirmed by ToPH
	Time for first / last passenger bag (WB)	10 / 35 mins	Confirmed by ToPH
	Passenger dwell time	10 mins	Confirmed by ToPH
	Friends dwell time	30 mins	Confirmed by ToPH
	Percentage of passengers in hall at one time	80%	Confirmed by ToPH
	Percentage of friends in hall at one time	80%	Confirmed by ToPH

Appendix II – Land Use Master Plan

Land Use Master Plan

The following report, Port Hedland International Airport Master Plan' prepared by Whelans Town Planning and Parsons Brinckerhoff July 2011 has been used to develop this Master Plan. Extract are provided in this Appendix.

TOWN OF PORT HEDLAND

PORT HEDLAND INTERNATIONAL AIRPORT MASTER PLAN

PREPARED BY:

whelans TOWN PLANNING

AND

PB PARSONS BRINCKERHOFF 125 YEARS

REVISION 3.2
JANUARY 2011

PARSONS BRINCKERHOFF 125 YEARS

whelans TOWN PLANNING

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1. EXECUTIVE SUMMARY

The Port Hedland International Airport [PHIA] is located between the settlements of Port Hedland, and South Hedland, on over 900 hectares of land that is predominantly owned by the Town of Port Hedland [ToPH].

The airport is an integral part of the community and the economy of Port Hedland, and is a critical component of the resource industry of the Pilbara region, providing for Regular Passenger Transport [RPT] and General Aviation [GA] air services to service the community and industry. The airport accommodates more than 250,000 passengers and 20,000 flights annually.

The airport has 2 Runways, one at 2500 metres [direction 14/32], used primarily for RPT, and one at 1000 metres [direction 18/36], used primarily for GA.

Increased development pressure within the township in recent years, due to a number of factors, has provided the impetus to develop airport land, which is largely vacant with the exception of airport infrastructure and related commercial use around the terminal. The requirement for preparation of the Master Plan was therefore determined to ensure that development of any land within the airport occurs on a planned, orderly and rational basis.

Whelans and Parsons Brinckerhoff have prepared this report on behalf of the Town of Port Hedland [the Town].

The purpose of the Master Plan is to guide the subdivision and development of land owned by the Town over time, whilst providing security to Airport related land uses. A fundamental aspect of this report and the Master Plans is the protection of operational aspects of the airport.

The Master Plan is divided into logical Precincts that are defined by both geography and preferred land use. There are four land use precincts, which have been identified as having subdivision and land use potential, and a fifth 'airport' precinct, which contains existing airport land uses and allows for expansion of operational land uses [no Master Plan has been prepared for this last precinct].

A number of issues have been identified, including buffers required to air navigation infrastructure and aircraft operational requirements; land assembly requirements; critical infrastructure constraints, especially water and road transport, as well as potential land use conflicts.

The Master Plan identifies that there is, indeed, significant development potential, and that the development issues, while guiding development in each precinct in specific directions, should not prohibit development. The report identifies that it is, however, important to develop any land in an integrated manner, and not in isolation to other subdivision and land development projects occurring in Port Hedland, and that careful use of land use planning controls will be required.

It will be important to develop a range of land use planning and land tenure controls to ensure that development of land within each precinct does not detrimentally impact the long term future of the airport.

The Draft Master Plan was advertised in October and November 2010. Advertising consisted of consultation with specific agencies and stakeholders, as well broad public notice advertising to the general public. Few submissions were received, and only minor amendments to the report and plans were required as a result of the advertising process.

The Master Plans for Precincts 1 & 2 build on existing airport related land uses and development within these precincts, and attempt to resolve existing land use and development conflicts [especially Precinct 1].

Precinct 3, despite having some building height constraints, has been identified as having significant development potential, and is a logical extension of Industrial land uses that are expanding on the western side of Great Northern Highway and Wallwork Road, in the vicinity of the Wedgefield Industrial Area. The land within Precinct 3 has potential to create over 250 Industrial lots, ranging from 2000 square metres to over 20 hectares.

The Master Plan has determined that Precinct 4 has significant constraints, and has the least development potential. Notwithstanding this, there is significant land area in this precinct, and it does have some development potential.

Overall, it is considered that the Port Hedland International Airport requires some rationalisation of land uses, and has significant development potential, and this Master Plan will form an important guide in future development of the airport.

6. PORT HEDLAND INTERNATIONAL AIRPORT MASTER PLAN

This report and the accompanying plans form the Port Hedland International Airport Master Plan. Specific precinct plans have been prepared for each precinct, and this report should be read in conjunction with these plans, and vice versa.

6.1 PRECINCTS

As previously discussed, the PHIA Master Plan is divided into Precincts to guide development according to geographic and land use considerations. Each precinct has distinct objectives with specific strategies according to the location and existing and preferred land tenure and land use. Each precinct should provide for a variety of land uses according to the Master Plan for that specific precinct. However, it is recommended that no commercial or retail land uses not directly related to airport associated uses should be permitted in any of the precincts.

Descriptions of each precinct are detailed below. Proposed zoning for each of the precincts is outlined in Section 7.1.

6.1.1 PRECINCT 1 - TERMINAL PRECINCT

Precinct 1 is the most developed component of the Airport and includes a variety of existing land uses. Most are directly or incidentally related to the function of the runway and terminal uses, and includes car hire, terminal services, Royal Flying Doctor Service and Bureau of Meteorology, as well as freight and General Aviation.

This precinct is currently considered to be cluttered and ad hoc, and does not function optimally. There are a number of land use and activity conflicts within this precinct:

- ➔ Freight, GA and RPT activities are located in close proximity, and need to be separated;
- ➔ There is insufficient car parking for vehicle hire and public car parking; and
- ➔ Outdated facilities such as the Terminal and car parking areas need to be expanded and upgraded.

Additionally, as the airport continues to grow, there will be increased demand for growth in freight and logistics, tourism and vehicle hire. To resolve these conflicts and provide for growth, the purpose of the Master Plan for Precinct 1 is therefore threefold:

- ➔ Resolve existing land use conflicts by rationalising land uses, especially in close proximity to the Terminal and Aprons;
- ➔ Indentify new locations for some existing uses; and
- ➔ Provide for the expansion of land uses as required.

To achieve these objectives the following recommendations are made regarding land use and development:

- ➔ Relocate land uses conflicting with RPT activities and terminal expansion
- ➔ Implement a freight and logistics precinct to accommodate rationalisation and expansion of these uses.
- ➔ Create lots for car hire company operations within close proximity to parking areas and the Terminal
- ➔ Expand public car parking areas
- ➔ Rationalise access and traffic flow
- ➔ Extend the northern and southern GA aprons and accommodate expansion of GA away from RPT activities
- ➔ Create 'cut off' drains to divert stormwater away from the precinct
- ➔ Extend drainage lines and install attenuation basins to adequately manage stormwater
- ➔ Implement landscaping and entry statements to the primary access point from GNH

Significant upgrades to car parking and terminal facilities are proposed. In the longer term, the land identified as 'short term' parking on the Master Plan can be developed with a multi story car park providing elevated access to proposed new terminal facilities. A hotel/motel could then be developed on the land identified as 'medium and long term' parking, as proposed by the Town. Accordingly, these parking areas are shown as separate lots to be created to accommodate successional land use.

Significant modifications to existing drainage network are also proposed to better deal with stormwater drainage in this precinct.

6.1.1.1 LAND USES

The Master Plan for Precinct 1 has been developed to further categorise land uses into distinct groupings within the precinct. These can be categorised as Airport Operations [such as terminal, maintenance and emergency services], Freight and Logistics, and Airport Commercial [such as GA, RFDS, Vehicle Hire and Tourism].

Accordingly, the Master Plan allocates land such that uses directly related to Terminal activities, such as parking, storage and workshops are all located within close proximity to the terminal, and uses that conflict with terminal activities, such as logistics and freight,

are located within a specific precinct for this purpose. Similarly, commercial airport uses such as vehicle hire and GA and charter services are located within specific precincts. The Master Plan creates 39 new lots to accommodate these land uses, with an additional two lots subject to existing lease area modification. The following land use categories are identified within this precinct:

Table 22: Proposed Land Use Categories & Yields

CATEGORY	PROPOSED LAND USES	No LOTS
Airport Operations	Terminal Services, Car Parking, Aircraft fuel supply	NA
Freight / Logistics	Air Freight & Logistics	18
Airport Commercial	Vehicle Hire Compounds, Charter, General Aviation, Tourism	21 (+2)

A number of the Airport Commercial lots are created on the northern side of the BOM site. The use of these lots is dependent on access to the GNH, and their development potential may be impacted on by this requirement. A service or slip road may be required to provide access to these sites. Additionally, it is suggested that the BOM lease could be modified to create additional lots, to both the north and south of this lease area. Lots 1-10, which are adjacent to the runway, are proposed with access to extended northern Aprons to allow for GA uses.

The Freight and Logistics category area is proposed to the east and south of the terminal. This area provides land in close proximity to the apron and runways, whilst having separate vehicular access from the GNH to passenger terminal area. This land will also provide sites to enable resolution of some land use and built form conflicts which currently exist.

There are currently a number of buildings that are located within close proximity to the terminal that conflict with the terminal RPT use, such as the existing freight shed adjacent to the terminal building and Golden Eagle Aviation. It is proposed to relocate these uses over the medium to long term to the Freight and Logistics categorised land, to remove this conflict. While no specific lot allocation is proposed under this Master Plan, there are sufficient lots created that will be capable of accommodating these land uses. Extensions to the northern and southern GA aprons will facilitate relocation of conflicting uses.

A variety of existing land uses within this precinct are not directly related to these above prescribed use categories. The Royal Flying Doctor Service, Bureau of Meteorology [BOM] and ASA all have infrastructure and buildings located within this precinct. While the BOM and RFDS leases should be maintained, the ASA building is currently vacant, and any future need for office or storage floorspace could be provided for in an alternative location.

The Air BP lease is proposed to be retained with a modified lease area to allow for a proposed road extension and realignment, as well as improved heavy vehicle traffic movement through the site, provided by a battleaxe leg.

The Port Hedland Riders Club lease, which does not have access internal to this precinct, should also be maintained. However, revised access is proposed to reduce crossovers to the GNH.

The Council Works Depot, situated adjacent to the Riders Club is proposed to be relocated to allow for coherent land use within the Freight and Logistics category area. However, should the Town wish to retain this use in its current location, Lots 37 and 38 could be used for this purpose on a long term or successional basis.

Existing staff housing has been retained in its current location, with additional land set aside for any future need for more on-site housing. This land has been included within the 'Airport Operations Use' land.

Land uses areas that are identified as being in conflict with Terminal RPT uses should be encouraged to relocate, and accordingly leases for these sites should not be renewed.

It is unlikely that the number of lots allocated to Freight and Logistics or Airport Commercial land uses will sustain the demand for such land supply within the medium term. Therefore the Master Plan is intended to identify strategic long term land supply for these land uses, subject to evolving demand and supply factors. It is anticipated that the Master Plan identifies land supply in the order of 10 - 15 years for Airport Commercial and Freight/Logistics land uses.

It is critical that land uses not consistent with or directly related to Airport activities are prohibited from this Precinct. This is addressed further in Section 7.1.

6.1.1.2 LOT LAYOUT

The design of Precinct 1 is predicated on the existing access roads and land uses. A number of lots are proposed to be created under the Master Plan for Precinct 1. The table below shows the break up of lots that are proposed to be created:

Table 23: Proposed Lot Categories, Yields & Areas

CATEGORY	No LOTS	LOT RANGE	AVERAGE SIZE
Airport Operations	NA	NA	NA
Freight Logistics	18	2,270 – 11,000m^2	3,200m^2
Airport Commercial	21	1,522-5955m^2	3,700m^2

Lots are proposed to be located along extended northern and southern GA Aprons. This will provide for expanded logistics, freight and charter GA services. Additionally, lots are proposed to be created for vehicle hire companies. These are located within close proximity to the public car parking and terminal facilities.

Once these lots are created, they can be sold. Freehold land ownership in this precinct is not considered to be detrimental to the future of airport operations, and will be an important method of raising capital for upgrades to terminal and parking facilities.

Along with lots for Airport Commercial, Freight and Logistics lots, it is recommended that lots are created for specific airport related land uses:

- ➔ Short and Medium and Long Term Car Parking
- ➔ ToPH Airport Housing
- ➔ Operations and maintenance

6.1.1.3 TRANSPORT AND ACCESS

Public access to Precinct 1 is currently off Great Northern Highway. A secondary access point with no public access is located to the south of the public access point. No additional access points are proposed within close proximity to this precinct. The only exception is access to proposed Lots 1 & 2 which will depend on land use and demand.

It is recommended that the public access to this precinct be landscaped and better delineated to provide a landmark gateway to the airport terminal.

The secondary access point is currently restricted, and is used for airport operations and refuelling of aviation fuel facilities. It is proposed to relocate this access to provide improved vehicle movement to the expanded freight and logistics precinct. This will provide increased separation to other access points on the highway. General public access should not be provided through this new entrance. The existing access to the 'Riders Club' lease area can be provided from this new access, allowing for the closure of the existing access and crossover to the highway.

As part of the redesigned layout of lease areas and road access, the emergency access points to the aprons and runway have been relocated. These remove restrictions on the extension of the RPS terminal and RFDS lease, whilst providing efficient emergency vehicle access and movement.

6.1.1.4 DRAINAGE

The drainage system proposed in Precinct 1 follows the recommendations provided in Section 5.1.2 of this report. The existing drainage has been relocated in order to integrate with the proposed roads and realignments of existing roads. The length of the drainage course has been significantly lengthened to enable increased capacity to better attenuate heavy rainfall and flooding scenarios. Two detention/infiltration basins have also been proposed to further increase capacity.

To the south of the Freight and Logistics lots, it is proposed to construct an earth bund to redirect drainage off the runway away from the main apron, and into the drainage system within the road reserve. A drainage swale also runs along the extended apron north of the terminal, directing run-off north towards Precinct 4.

6.1.2 PRECINCT 2 - EASTERN PRECINCT

Precinct 2 has been predominantly developed with two Transient Workforce Accommodation developments; Auzcorp's Mia Mia site, and the 2000+ person Port Haven site. ASA's navigation and communications infrastructure is also located within this precinct, consisting of the NDB and a High Frequency Radio Antenna Array as discussed in Section 3.4. The State Emergency Service depot is also located within the precinct, to the south-east of the Mia Mia encampment.

Development within this precinct must recognise existing land uses to ensure that conflicts are minimised. Additionally, it is recommended that long term use of the land is embargoed to ensure that any long term requirement for the use of this land for airport related uses can be pursued. Accordingly it is recommended that this land, even if subdivided, should be leased, and not sold to developers. This will ensure that the land is protected for the long term.

6.1.2.1 LAND USES

Only land uses compatible with existing Precinct 2 land uses and that will not impact on the NDB or Antenna Array should be considered for this Precinct. Land uses considered compatible with these uses are:

- ➔ Transient Workers Accommodation
- ➔ Transport Development [consistent TDZ draft Scheme provisions]
- ➔ Hotel/Motel

This precinct provides for subdivision into multiple lots, or development of a single lot, depending on proposed land use and requisite lot sizes. If smaller lots are required, a range of lot areas can be provided, while if a large TWA similar to the Port Haven TWA is required, a single lease could be pursued. This is demonstrated on the precinct plan.

Again, it is critical that land uses not consistent with or directly related to Airport activities are prohibited from this Precinct. This is addressed further in Section 7.1.

6.1.2.2 LOT LAYOUT

The layout of lots within Precinct 2 will be dependent on the type/s of land uses that are located on the land, determined by land use controls as well as demand side factors. Two options are proposed, one providing 11 new lots, 2 of which require relocation of existing evaporation ponds serving the Mia Mia TWA. The alternative proposes a single lot for a large scale use, such as a TWA encampment.

Table 24: Proposed Lot, Areas & Yields:

Option	LOT SIZE RANGE	No LOTS
1	1ha - 2ha	6
	2-5ha	4
	5ha +	1
2	30 ha	1

Modification of the Port Haven TWA lease area has been proposed, to rationalise the boundary alignments and include the treated wastewater disposal site within the designated lease area.

An easement has also been proposed between Lots 7 and 8 to protect water pipeline infrastructure.

6.1.2.3 TRANSPORT AND ACCESS

Access to developable portions of Precinct 2 can be provided off GNH. If subdivided into multiple lots, access can be provided via a loop road system that would theoretically provide access for trucks and potentially road trains.

Given that there are multiple access points along this stretch of the GNH, access to the Mia Mia TWA and SES depot can be rationalised to reduce the number of access points on to the GNH. Alternatively, should this precinct be utilised by a single owner, a single common access could be developed that would also provide access to the SES and Mia Mia sites.

The access arrangement to and from the ASA infrastructure to the runway, has been modified to reflect the proposed lot boundaries.

Landscaping has also been proposed along GNH to provide a visual buffer as well as a potential entry statement to the additional land uses.

6.1.3 PRECINCT 3 - SOUTH WESTERN PRECINCT

Precinct 3, while constrained by height limits from DVOR and DME infrastructure [see Section 3.4], has significant potential for subdivision and development. This precinct can yield over 250 lots, ranging in size from 2000m^2 to over 20ha. Restrictions to land uses will be required to ensure that the operating parameters of the DVOE and DME are not detrimentally affected. This is discussed further in Section 7.

Subdivision of this precinct will require access from GNH. Limited points are available to access the ToPH land due to UCL lot 253 and the cemetery site consuming the majority of the frontage to GNH. As a result only one location for access is available, situated on the northern side of the ToPH cemetery.

The subdivision of Precinct 3 is a logical expansion of the Wedgefield Industrial Area and the TDZ currently being planned for by LandCorp. Additionally, the presence of the runways and railway lines further limit the potential for this land to be developed for anything other than Industrial purposes.

The existing ToPH Incinerator and ASA Fire Training Module currently located within this precinct will be required to be relocated. These pieces of infrastructure are not considered to be significant, and alternative locations should be able to be readily identified. Given that Precinct 4 is constrained by access and hydrology issues, these may be able to be relocated to this precinct, although other suitable locations should be able to be readily determined.

6.1.3.1 LAND USES

As discussed above, logical use and development of this land is to extend and integrate industrial and transport uses, both existing within the adjacent Wedgefield Industrial Area as well as proposed as part of LandCorp's TDZ [providing specifically for transport laydown, vehicle break down and storage areas]. The expansion of industrial uses into this land was also identified within the LUMP.

The substantial available developable land area of Precinct 3 presents the potential to provide for a considerable range of lot sizes that cannot be provided in other areas of the township capable of being developed for Industrial land use purposes. Significantly, it can provide for larger lots in the range of 10 to 20 hectares should market demand require.

However, land uses within this precinct, specifically those with the ToPH land, will be constrained by heights restrictions, as identified Section 3.4. Detailed analysis in this regard should be undertaken by, or in conjunction with, CASA and ASA, to ensure the necessary land use controls are implemented – discussed further in Section 7.

6.1.3.2 LOT LAYOUT

Lot sizes within this precinct range from 2000 square metres to over 20 hectares or 200,000 square metres. This represents a significant lot variance capability. The following table demonstrates the projected lot yield, divided into land owned by the ToPH and UCL.

Table 25: Lot Ownership, Areas & Yields

LOCATION	LOT SIZE RANGE	No LOTS
ToPH Land	2000 sq m - 5000 sq m	13
	5000 sq m - 1 ha	13
	1ha - 2ha	23
	2 ha - 4 ha	11
	4 ha - 8ha	9
	8 ha +	8
UCL	2000 sq m - 5000 sq m	94
	5000 sq m - 1 ha	21
	1ha - 2ha	3
	2 ha - 4 ha	3
	4 ha - 8ha	2
	8 ha +	0

Lots have been designed to be evenly shaped and sized to accommodate Industrial land uses. Larger lots are generally located further into the subdivisional area, as these are likely to be less reliant on public access. Lots located within the UCL component of the precinct are generally smaller, and represent an extension of the proposed industrial land on the opposite side of Wallwork Road. Lots along the major arterial roads have also been proposed with smaller areas for commercial purposes, as have lots with exposure along GNH.

Lots affected by the water pipeline and fibre optic cable easements will require additional land area to compensate prospective purchasers for this burden, and allow an appropriate land area for development.

A parcel of land of approximately 50 hectares in area has also been identified in the Land Assembly Plan for Precinct 3, for potential development of a Department of Defence base, as per the ToPH's

request. Should this base proceed, this will not impact upon the traffic movement or drainage for the rest of the Precinct. The Land Assembly Plan also identifies the strip of land closest to the runway as a potential buffer to any future second runway, should the need be confirmed.

6.1.3.3 TRANSPORT AND ACCESS

The proposed road network within this precinct provides for a permeable circular traffic movement, designed for industrial traffic. This allows for road trains to easily traverse the road system. Two main entry points are proposed into the precinct. The northern access on the northern side of the cemetery provides road train access to and from the subdivision. Larger lots are all accessible from the northern access point off Great Northern Highway to ensure road train access to these larger sized lots. A roundabout is proposed to provide access into the subdivisional area off Wallwork Road. No road train access will be permitted off this roundabout access.

A road interface with the UCL is provided to account for the untimely acquisition of the UCL.. If this acquisition does not occur within a satisfactory timeframe the two components can be integrated when subdivision of the UCL takes place.

The road network also accommodates a corridor for the existing 300 mm water main traversing this precinct. The road reserve within which this main lies is 50 metres in width to accommodate this infrastructure together with the road carriageway and a swale drain to provide for stormwater drainage. Several roads within this precinct are proposed to be 40 metres wide to accommodate the road carriageway and a swale drain, while roads where drainage will only occur within the carriageway are proposed to be 30 metres in width to provide for industrial traffic and road trains.

A critical issue for access and transport in this precinct will be the acquisition of the UCL at the western side of the site, as this UCL provides for access to Wallwork Road. Without the access point provided by the UCL, a single entry point on the northern side of the cemetery would provide the only access point to the Precinct. While this access will be sufficient, it provides less road frontage and visibility to land uses within the proposed subdivisional area.

Also of consideration to future access and traffic considerations are the Main Roads projects discussed in Section 5.3.4, which are currently in the preliminary design stage. The impacts of these projects on the proposed access and traffic flows will need to be examined in detail once they are further progressed.

6.1.4 PRECINCT 4 - NORTH WESTERN PRECINCT

The North Western Precinct is located at the junction of Great Northern Highway and Port Hedland Road. This precinct is bounded by the GNH, which effectively 'wraps' around the precinct, and both runways. This land has some clear physical characteristics [discussed in detail in Section 3.5] that result in the land likely being subject to inundation. Combined with buffers and access issues due to its locational constraints, this Precinct is the most prohibited for development potential.

6.1.4.1 LAND USES

Given the location of the site, hydrological and access issues, this Precinct is only suitable to be used for 'passive' uses over active land uses such as industrial or commercial development. Hydrological and operational issues are unlikely to be able to be overcome.

Passive uses constitute land uses that generate little traffic or access requirements, and don't require significant development other than earthworks. Land uses such as plant or turf farm, solar farm, wind farm or long term storage would suit this precinct. Public utilities such as a waste water recycling plant could also be considered.

Uses such as plant or turf farms and solar farms, however, generate potential conflicts with aircraft, such as attracting birds in the case of plant farms or reflections and glare in the case of a solar farm. These uses will require careful consideration prior to implementation. It is noted that solar farms have been developed on airport land in other locations, such as Alice Springs airport, and may be suitable, subject to design considerations to ensure glare does not affect aircraft.

A wind farm would need to comply with OLS requirements, however, it is considered that a wind farm can be accommodated, and would be an excellent use of the land.

Storage, such as the Transport Development Zone proposed on the other side of the Highway, would be suitable, however, may not be

aesthetically acceptable, and access may be problematic. Notwithstanding aesthetics, this use would be compatible with proposed adjoining land uses, and if access and aesthetics can be resolved, part of the land that is not subject to inundation could be utilised.

Another use that may be permitted in this precinct is a 'Fly In Estate'. An estate of this type provides a taxiway from a runway to an area of land that can be developed with aircraft hangers and a dwelling, either separate or on top of the hanger, and allows for residents to park aircraft within the estate. Given the high costs involved [taxiways and apron costs would have to be absorbed onto the estate costs] demand for this type of development is not likely to be high, however, this type of development is a recent innovation.

Given the constraints on Precinct 4, this use may be suitable, as it is unlikely to generate significant traffic, and can utilise proximity to the secondary runway.

Any land uses proposed for this precinct will require careful consideration, as well as development provisions to accommodate minimum floor levels to ensure it is not subject to inundation, as this precinct is identified as potentially subject to inundation as discussed above.

6.1.4.2 LOT LAYOUT

Due to proximity to the Port Hedland Road, access restrictions are likely to result in a single or limited entry points into this precinct from Great Northern Highway, and will limit access to any subdivision or development of the site. Lot sizes and lot layout will be dependent on the ultimate use of the land, and have not been shown for this reason. No lot yield is able to be projected for this Precinct, given that no intensive land uses are likely.

Figure 7: Port Hedland International Airport Master Plan

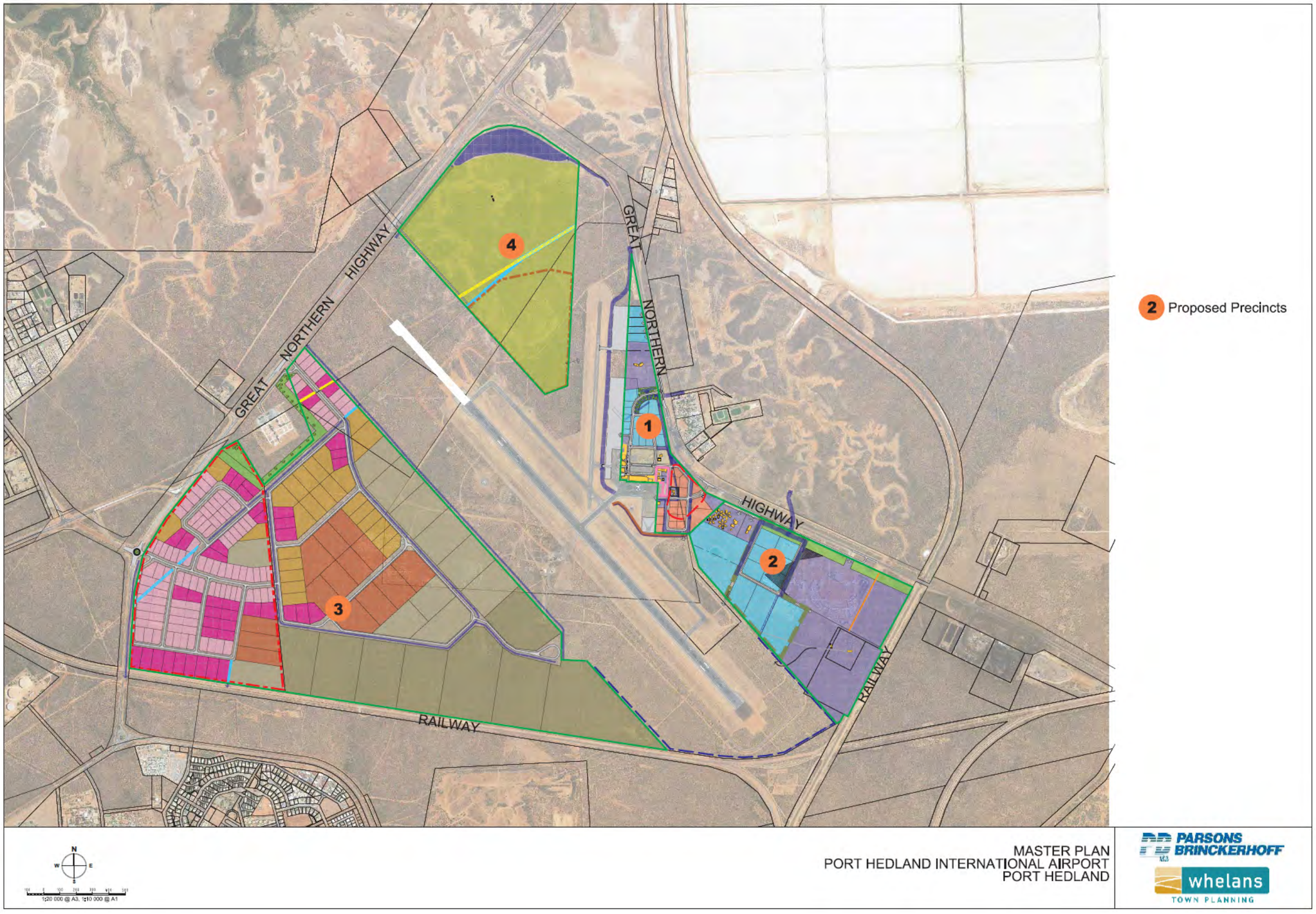
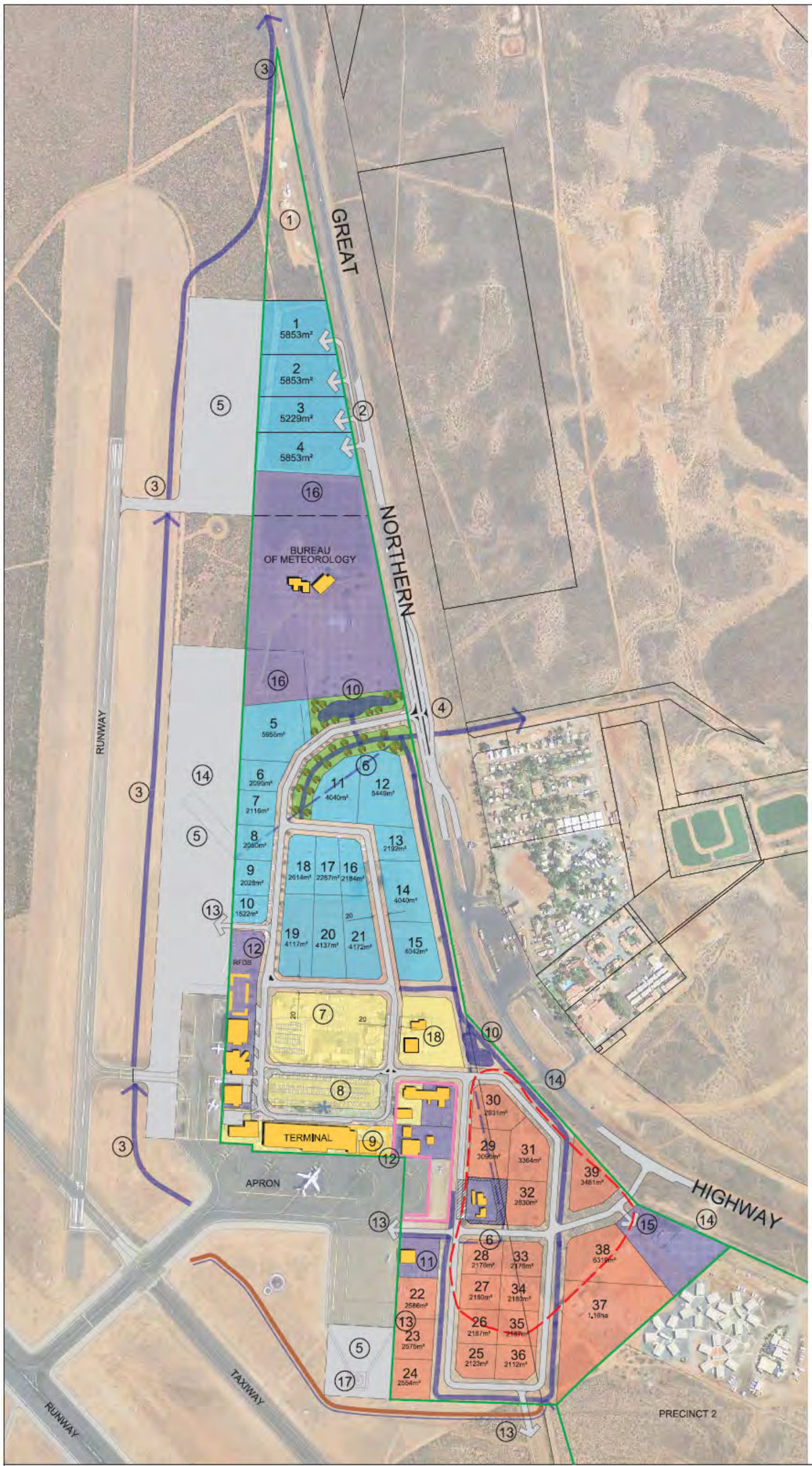


Figure 8. Master Plan - Precinct 1 Master Plan



NOTES

1. Existing information bay
2. Preferred access to proposed lots with single crossover
3. Cut off drain to divert drainage from aprons and runways
4. Access to be upgraded (Intersection detail subject to engineered design)
5. Extended apron to service additional lots
6. Existing drain to be redirected
7. Long term parking
8. Short term parking
9. Terminal extension
10. Attenuation basin
11. Relocated freight building
12. Emergency access to be closed
13. Emergency access relocated
14. Existing access to Great Northern Highway to be closed
15. Relocate access to existing lease with new entry
16. Additional lots subject to BOM lease area modification
17. Helicopter pad to be relocated if required
18. Additonal land for PHIA staff housing

LEGEND

- PRECINCT BOUNDARY
- LANDSCAPING/ENTRY STATEMENT
- AIRPORT SPECIFIC COMMERCIAL LANDUSE
- AIRPORT SPECIFIC FREIGHT/LOGISTICS
- EXISTING LEASE TO REMAIN
- AIRPORT OPERATIONS USE
- AIR BP LEASE TO BE MODIFIED
- 'LIVING STREAM' SWALE DRAINAGE
- DETENTION/ INFILTRATION BASIN
- ABANDONED OPEN DRAIN
- AREA WHERE FILL MAY BE REQUIRED
- EXISTING BUILDINGS
- PROPOSED BUILDINGS
- EARTH BUND AND DRAIN TO REDIRECT DRAINAGE
- TOWN OF PORT HEDLAND MAINTENANCE & OPERATIONS PRECINCT
- PUBLIC ART FEATURE

N W E S

50 0 50 100 150
1:5000 @ A3, 1:2500 @ A1

MASTER PLAN- PRECINCT 1
PORT HEDLAND INTERNATIONAL AIRPORT
PORT HEDLAND

PARSONS BRINCKERHOFF
whelans TOWN PLANNING

13906/100519 master plan design 13906-8

PARSONS BRINCKERHOFF 125 YEARS
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Figure 9. Master Plan - Precinct 1 Indicative Terminal Access & Car parking

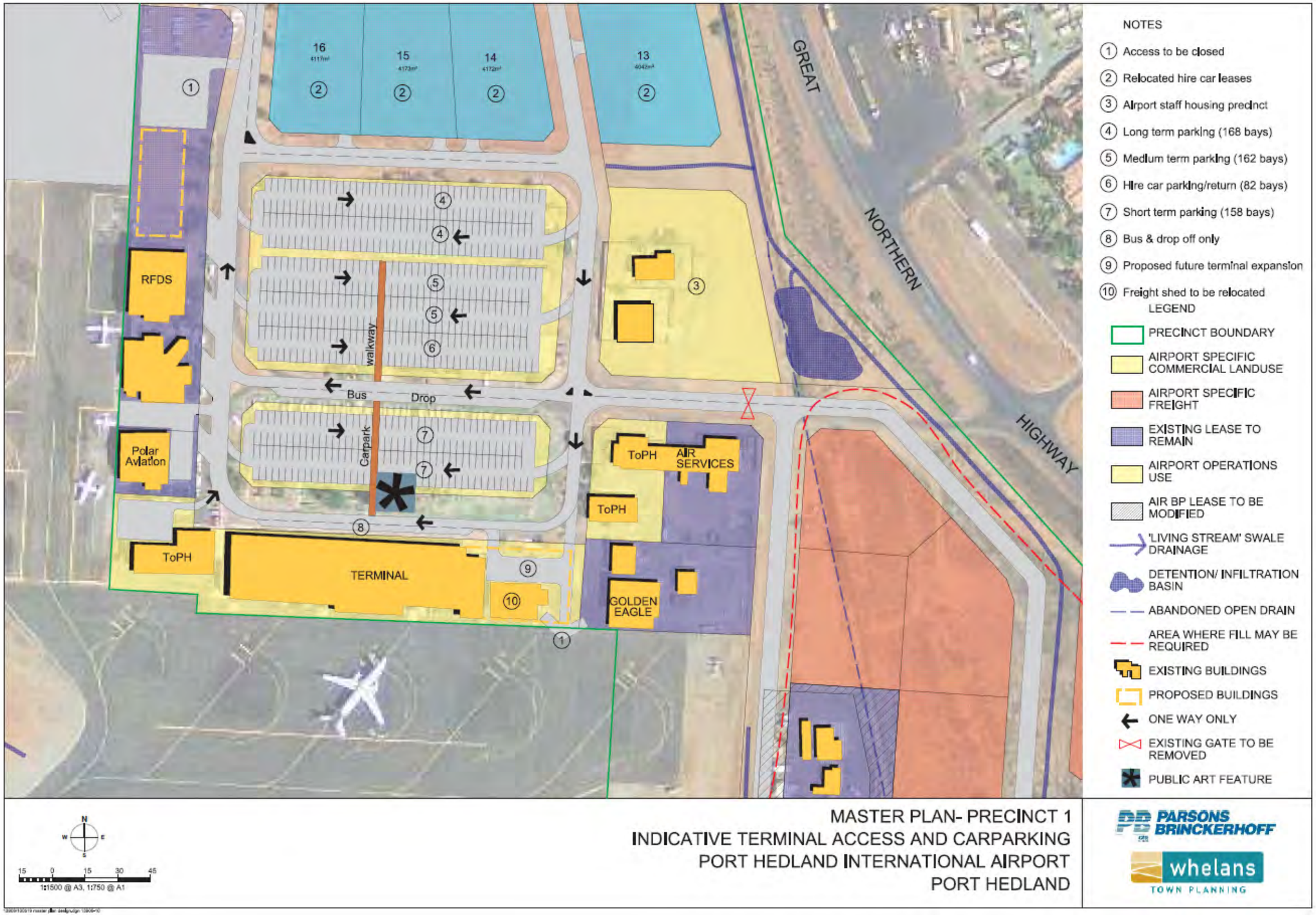


Figure 10. Master Plan - Precinct 2

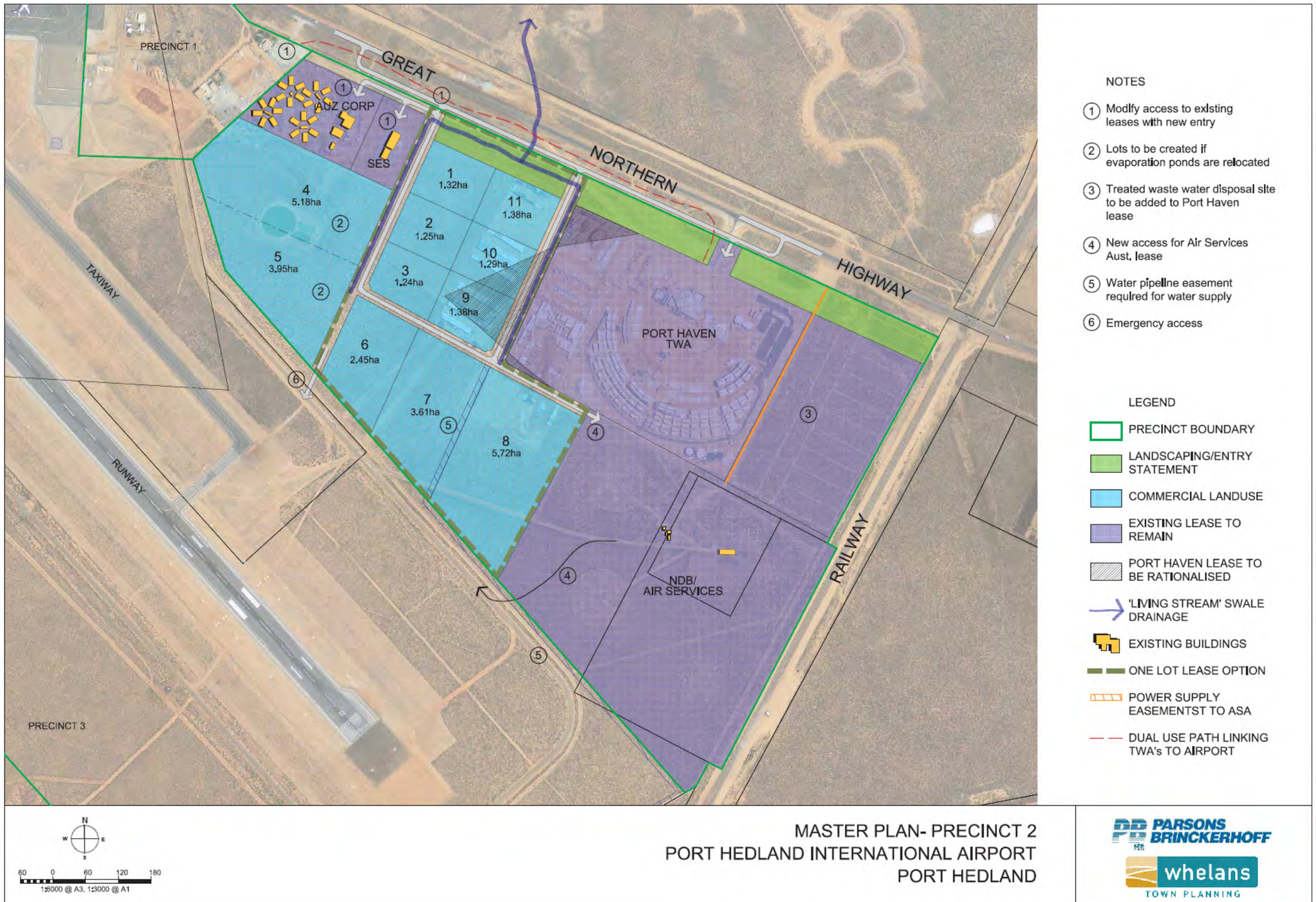


Figure 11: Master Plan - Precinct 3

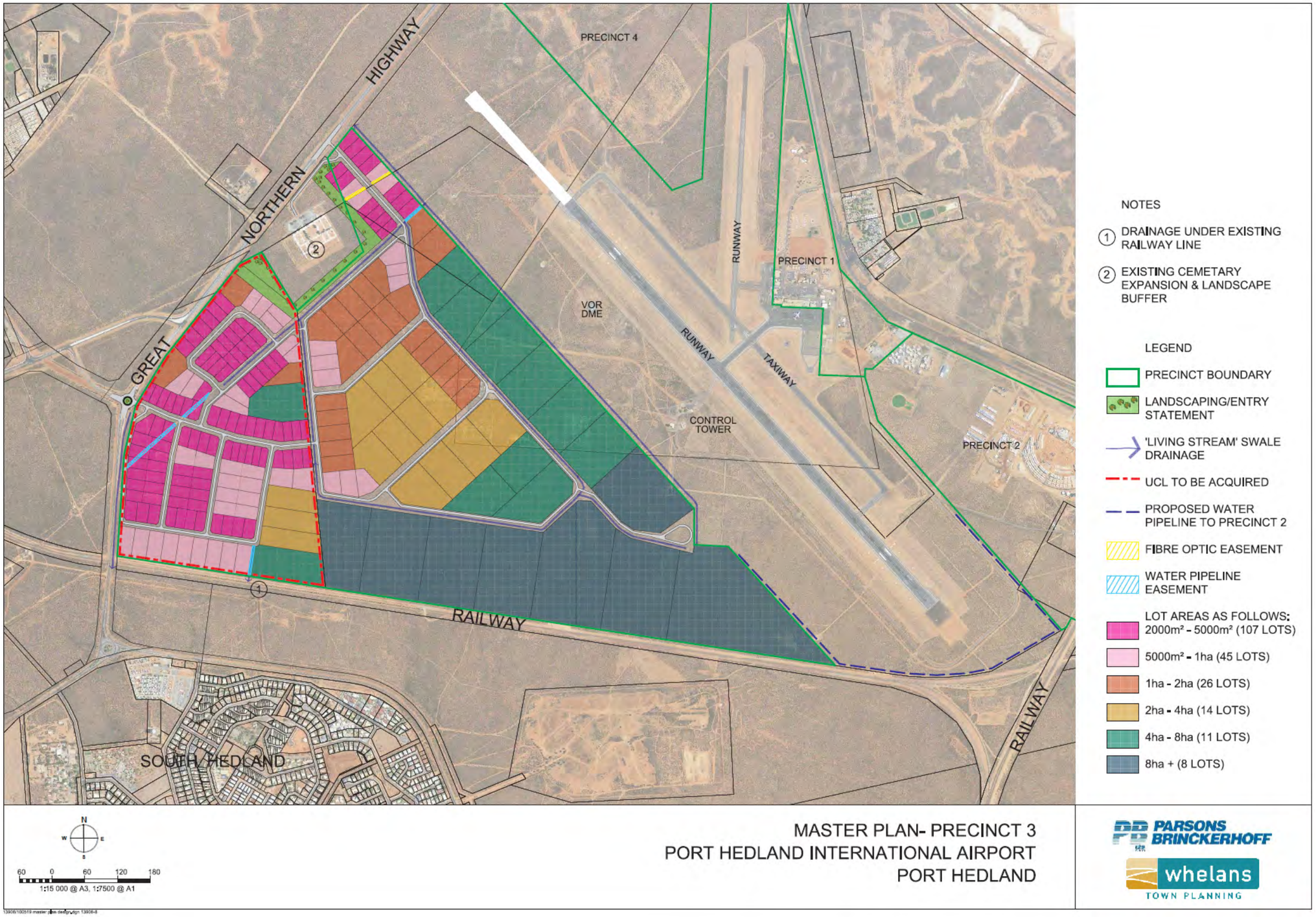


Figure 12: Precinct 3 - Land Assembly Plan

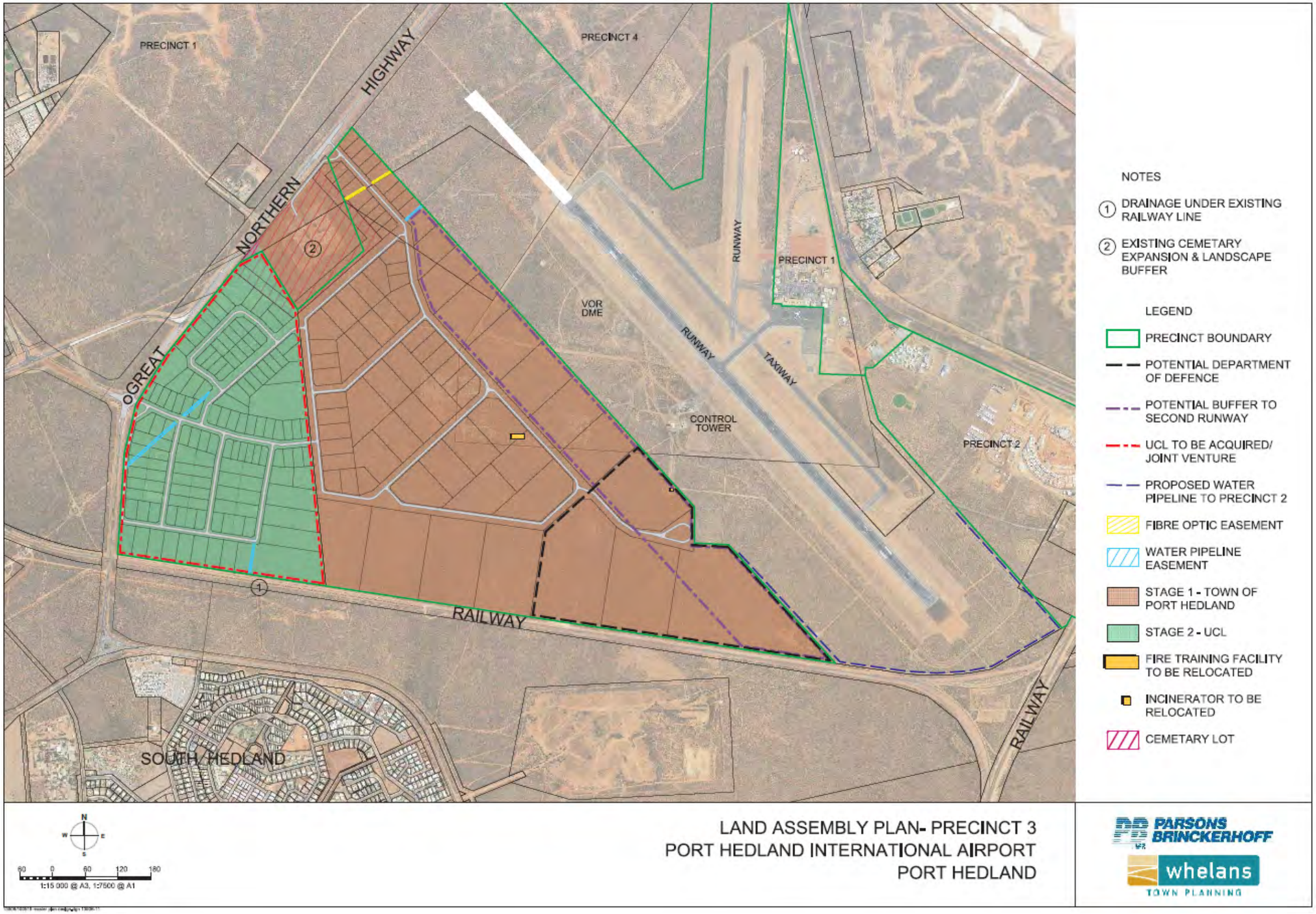
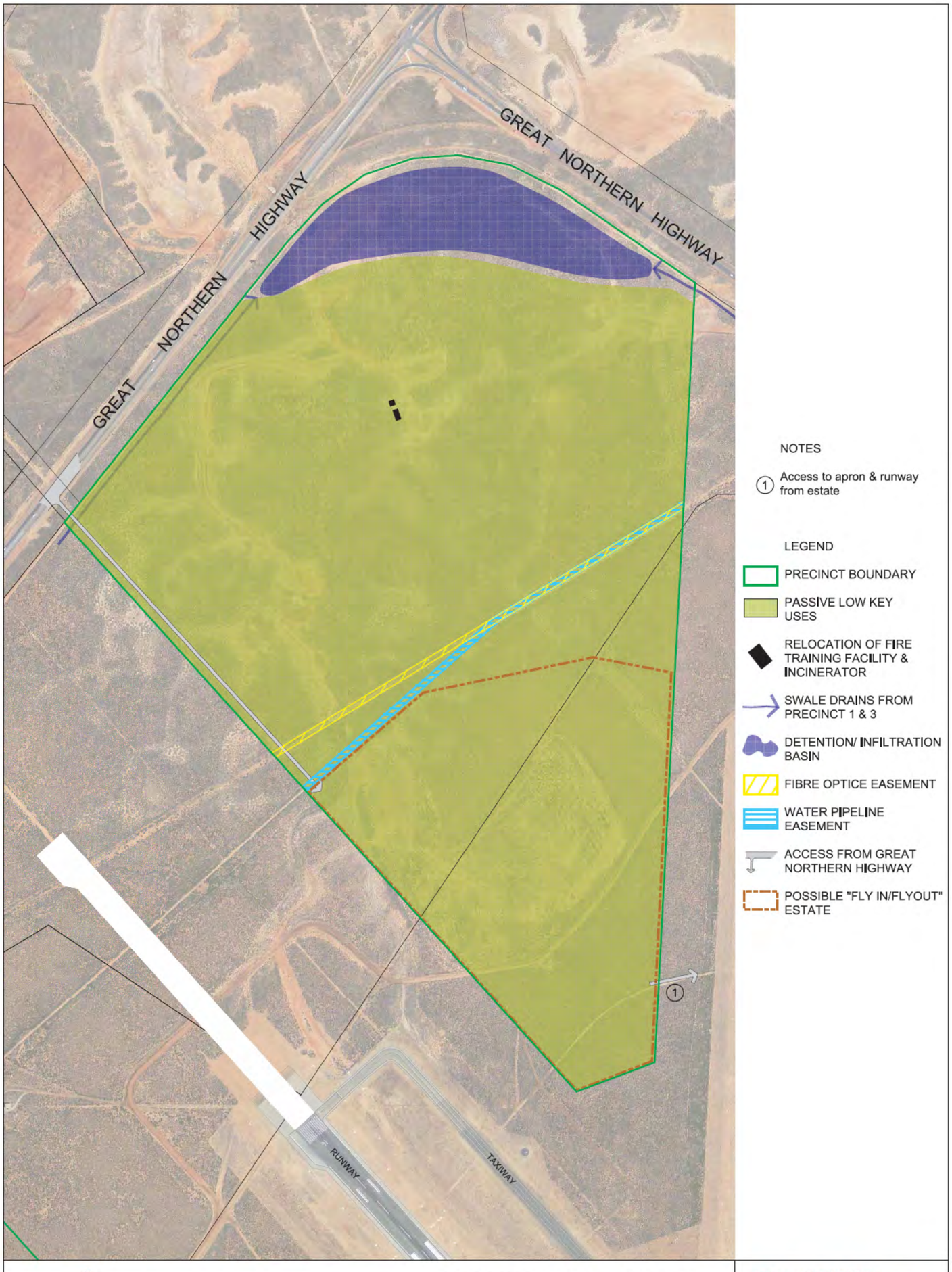


Figure 13: Master Plan - Precinct 4



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PARSONS BRINCKERHOFF 125 YEARS

whelans TOWN PLANNING

Appendix III –Air Traffic Forecasts

The full TFI Air Traffic Forecasts Report for Port Hedland Airport is a appended.

Air Traffic Forecasts for Port Hedland Airport

Draft Report

March 2011

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Overview

Tourism Futures International (TFI), with Airbiz, has been engaged to provide air traffic forecasts for Port Hedland Airport (PHE) from 2010/11 through to 2029/30. This Report summarises both the influences on traffic growth in the short, medium and longer term, and the latest passenger forecasts for PHE.

The main driver of the passenger market for Port Hedland is the mining sector and in particular Iron Ore and Base Metals. Port Hedland is in Western Australia's Pilbara Region, a key part of the State's mining sector. Apart from Port Hedland other airports in the Pilbara include Karratha (mainly iron ore and oil and gas), Paraburdoo and Port Newman (both iron ore producers). Passenger growth over recent years has been strong to all of these Pilbara airports.

Since the immediate impact of the Global Financial Crisis (GFC) there has been an improvement in global economic forecasts. However the high levels of sovereign and household debt in developed countries is causing further concern and could promote further financial crises. The necessary debt reduction (by governments, companies and consumers) across much of the developed world, allied with the need to reduce the GFC fiscal stimulus, suggests a downward pressure on economic recovery.

This global position is important to airports such as PHE because much of the passenger demand derives from mining-related activities for minerals exported to countries such as China and India.

The challenges in forecasting for Port Hedland and other mining-driven airports arise because:

- Strong demand for commodities over recent years has driven up commodity prices and these high prices justify huge increases in mining investment.
- Construction activity for new iron ore projects in the Pilbara has been responsible for the growth in passenger traffic.
- High prices lead to supplier countries expanding capacity at the same time as emerging market steel manufacturers look for cheaper alternative sources of supply.
- These factors lead to an excess supply and falling prices. In response new resource projects are deferred.
- This can lead to periods of strong growth in traffic followed by periods of decline. One of the greatest forecasting challenges is predicting when such a cycle will end and when a new cycle will begin.

As a result TFI has used a scenario-based process for projecting Port Hedland traffic. TFI has developed a number of scenarios based on assumptions with respect to the total traffic incorporating mining traffic and the underlying growth in community traffic and 'normal' levels of mining traffic.

1. Traffic History for Port Hedland

1.1 Current Airline Services at Port Hedland

Current airline services to/from Port Hedland (PHE) are summarised in **Table 1.1**. Most services operate to/from Perth with Qantas/QantasLink and Virgin Blue providing 37 services per week.

A limited number of services are also operated to/from other intrastate locations; Karratha and Broome. Services also operate to/from Melbourne, Brisbane and Denpasar.

Table 1.1: Return Services per Week at Port Hedland Airport

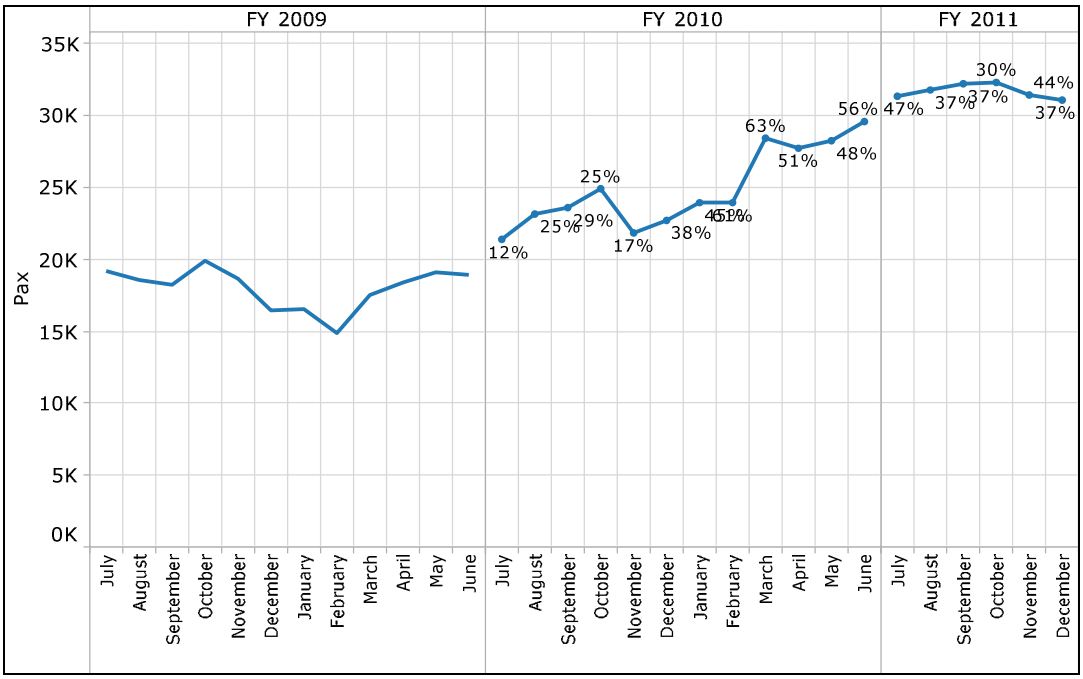
Port	Airline Return Services Per Week					Total Return Services
	Qantas/QantasLink	Virgin Blue	Airnorth	Skywest	Strategic	
Within WA						
Perth	25	12				**37**
Karratha			1			**1**
Broome			1	1		**2**
Outside WA						
Melbourne	1					**1**
Brisbane					1	**1**
Denpasar				2	1	**3**
Total	**26**	**12**	**2**	**3**	**2**	**45**

Source: Airline Schedules. Note: Strategic is withdrawing Port Hedland to Bali direct flights from the end of March 2011.

1.2 Port Hedland Airport (PHE) Data

TFI has received monthly data from the airport for the period July 2008 through to December 2010. **Figure 1.1** shows the numbers of passengers and growth over the period. Month to month growth has been very strong over the period shown.

Figure 1.1: PHE Monthly Passenger Movements and Change over Previous Year, July 2008 to December 2010



Source: PHE data.

1.3 Bureau of Infrastructure, Transport and Regional Economics Data

In addition to the local airport-provided data, domestic data (for passengers and aircraft movements) is regularly published for the top routes in the Bureau of Infrastructure, Transport and Regional Economics (BITRE) publication *Australian Domestic Airline Activity*. This data is published as traffic on board by stages and includes all traffic on each flight stage between two directly connected airports. It thus includes domestic transit passengers.

A second BITRE publication used by TFI is *Air Transport Statistics: Airport Traffic Data* which contains a time series of annual airport traffic data for Australian airports receiving more than 7,000 revenue passenger movements annually. It includes International, Domestic and Regional Airline data.

Table 1.2 provides the BITRE data for the financial years 2005 to 2010. Note that the overall passenger CAGR over the period has amounted to 24.2%. During this same period the CAGR for aircraft movements has been much slower at just 4.5%. This suggests that a large proportion of the passenger growth has been accommodated through the use of larger aircraft.

Table 1.2: Passenger Movements and RPT Aircraft Movements

	Years end 30 June						CAGR for 2005 to 2010
	2005	2006	2007	2008	2009	2010	
Passengers							
From PHE					215,940	298,941	n.a.
BITRE Domestic	84,168	109,359	151,740	189,475	206,501	295,152	28.5%
BITRE Regional	16,262	11,572	7,015	6,777	2,318	1,658	-36.7%
Total BITRE	100,430	120,931	158,755	196,252	208,819	296,810	24.2%
RPT Aircraft							
BITRE Domestic	1,835	1,451	1,860	2,228	2,653	3,344	12.8%
BITRE Regional	956	649	299	360	104	133	-32.6%
Total BITRE	2,791	2,100	2,159	2,588	2,757	3,477	4.5%

Notes: n.a. = not available; CAGR = Compound Annual Growth Rate. Source: PHE, BITRE data.

1.4 Longer Term History

Figure 1.2 uses BITRE data to show passenger movements at PHE over a long time period, from 1977/78 through to 2009/10.

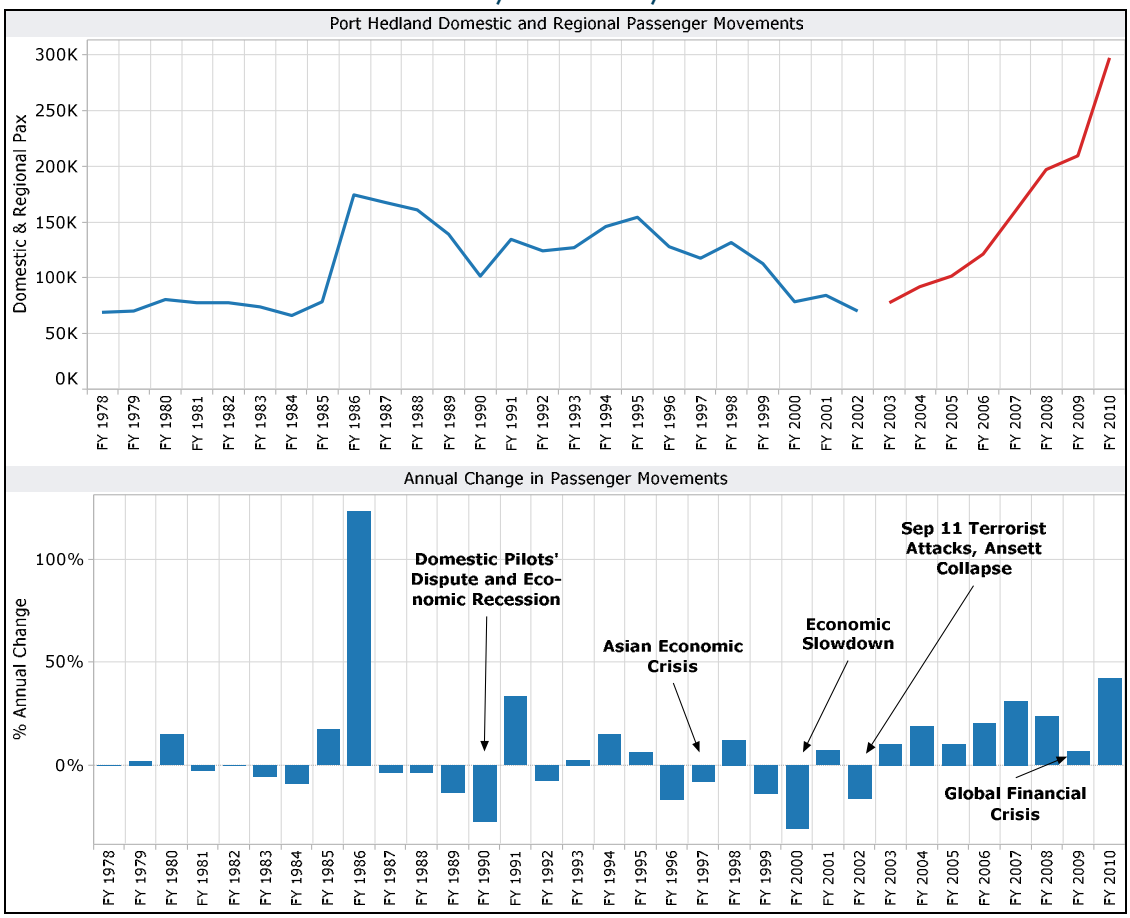
It is evident that Port Hedland has experienced strong volatility over the period. TFI has broken the period into two 'eras':

- The period from 1977/78 to 2002, characterised by a strong growth period and then a slow decline in passenger numbers.
- The most recent period from 2002 with strong and relatively sustained growth. The slower growth in 2007/08 and particularly 2008/09 results from the Global Financial Crisis (GFC).

Figure 1.3 uses BITRE aircraft movement data to show aircraft movement performance for PHE. The figure also shows the average numbers of passengers per aircraft movement. The key drivers for the aircraft movements have been the passenger numbers, the types of airlines carrying those passengers and their aircraft type decisions.

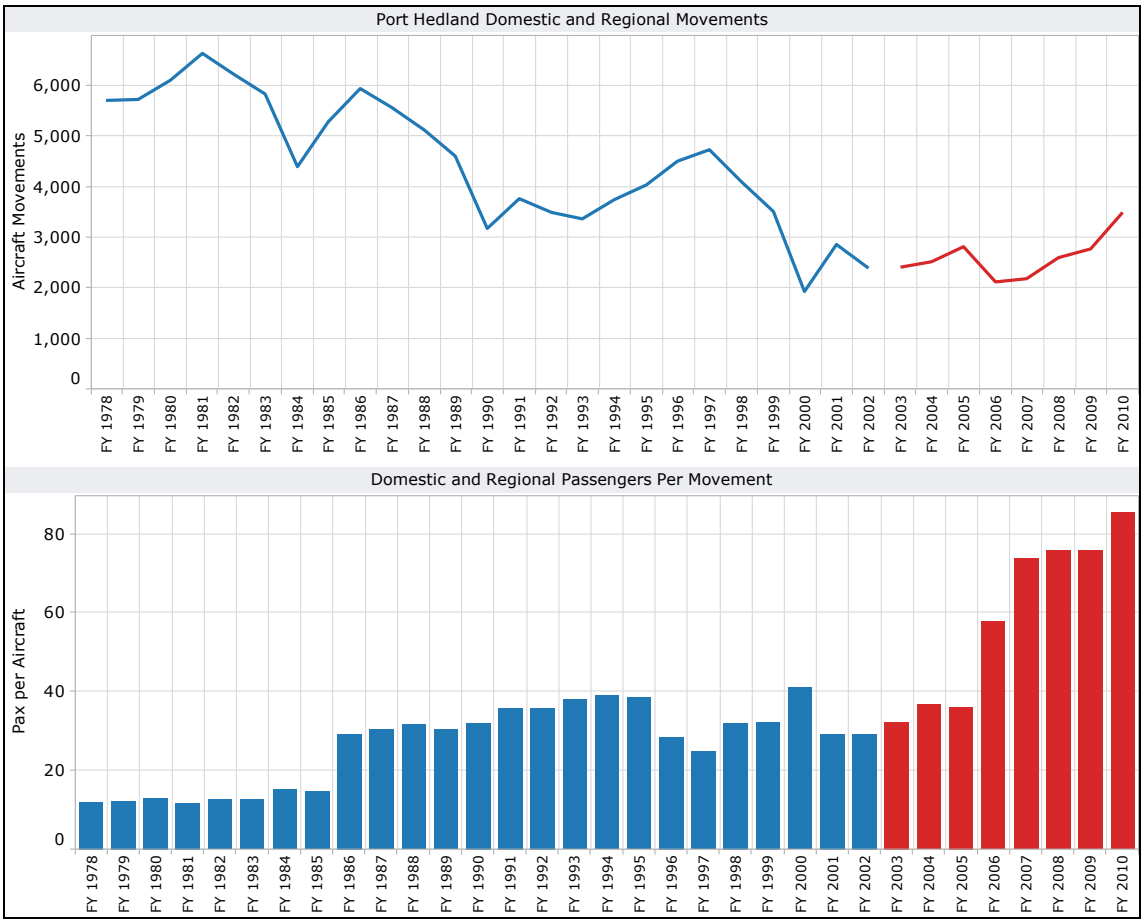
The average number of passengers per movement increased from 10-15 over the period to 1984/85, to 29-40 through to 2006 and from there the increase has been to 85 by 2009/10.

Figure 1.2: PHE Domestic and Regional Passenger Movements and Annual Change in Movements, 1977/78 to 2009/10



Source: BITRE data.

Figure 1.3: PHE Domestic and Regional Aircraft Movements and Average Numbers of Passengers per Movement, 1977/78 to 2009/10

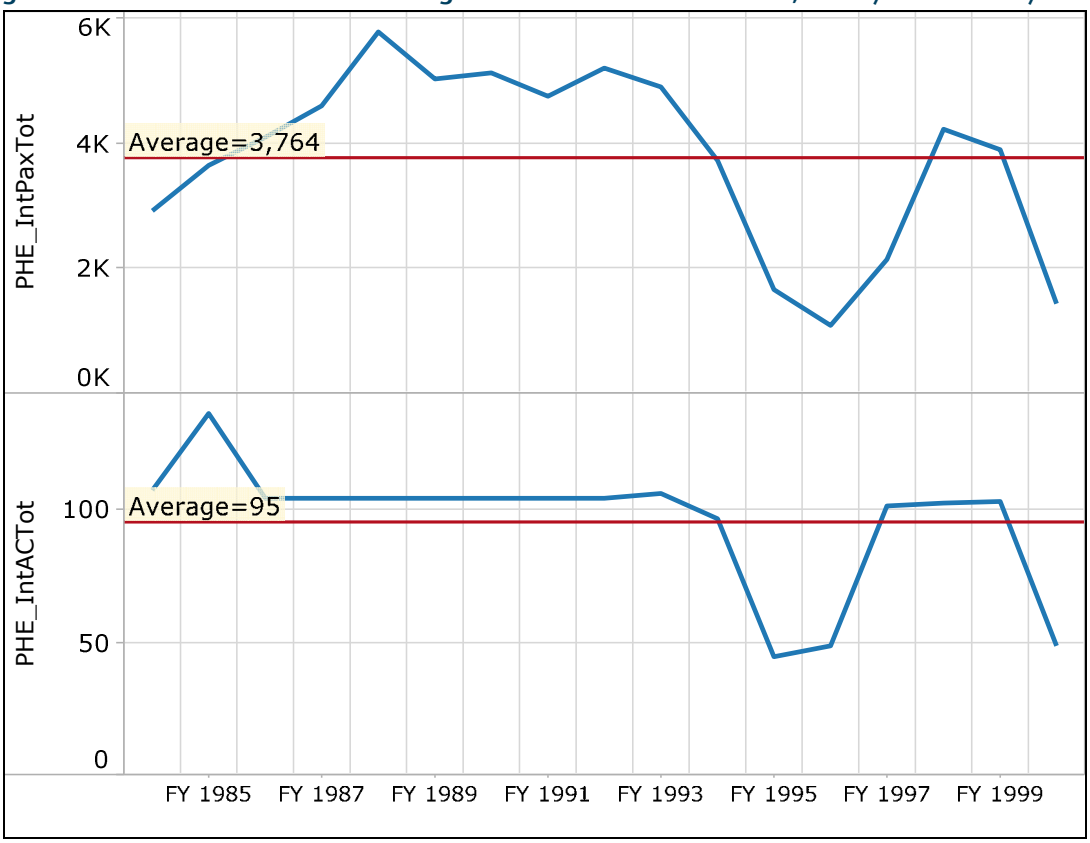


Source: BITRE data.

1.5 International Traffic History

Note that the data above shows the performance of PHE for domestic and regional traffic. PHE has recently seen the addition of some international traffic. PHE has seen international services before, specifically over the period from 1983/84 to 1999/2000. **Figure 1.4** shows that during this earlier period international passengers at PHE averaged around 3,800 per year on an average 95 movements per year.

Figure 1.4: PHE International Passenger and Aircraft Movements, 1983/84 to 1999/2000



Source: BITRE data.

2. Market and Aviation Business Environment

2.1 Forecasting Approach

In reality a large number of factors influence the growth of passenger movements at an airport. These include:

- Economic activity related to specific industries such as mining.
- The incomes of travellers or potential travellers. Both the level of income and confidence that these levels will be maintained and grow are important.
- The prices of air transport and the ground component of travel.
- The competitiveness (quality, product attributes and price) of a destination compared to alternative destinations.
- The supply of airline services – frequency, reliability, quality of service.
- Tourism promotion by Governments, airlines and industry bodies.
- Consumer tastes and available time for travel.
- One off factors and shocks. These include the travel impacts of events such as the Olympics, September 11, the collapse of an airline such as Ansett, and health concerns such as those generated by SARS.

However only some of these factors can be measured and their impacts included in forecasting models.

The approach adopted by TFI in preparing the PHE forecasts was based on a number of elements:

- A review of the traffic history available for PHE and an assessment of statistical trends.
- A review and analysis of the general aviation and business environment and current airline schedules. This assists in the development of assumptions and identification of qualitative factors that might influence traffic outcomes.
- Development of models linking drivers and traffic. In the case of PHE the mining sector activity is key in determining likely growth rates and peaks in the future.

Overall, TFI's approach is to:

- Include as much information in the forecasting process as possible (given time and budget constraints).
- Adopt a number of perspectives (macro and a micro approach).
- Utilise econometric and time series models.
- Prepare a range of forecasts and indicate sensitivities.

2.2 Key Demand Side Drivers

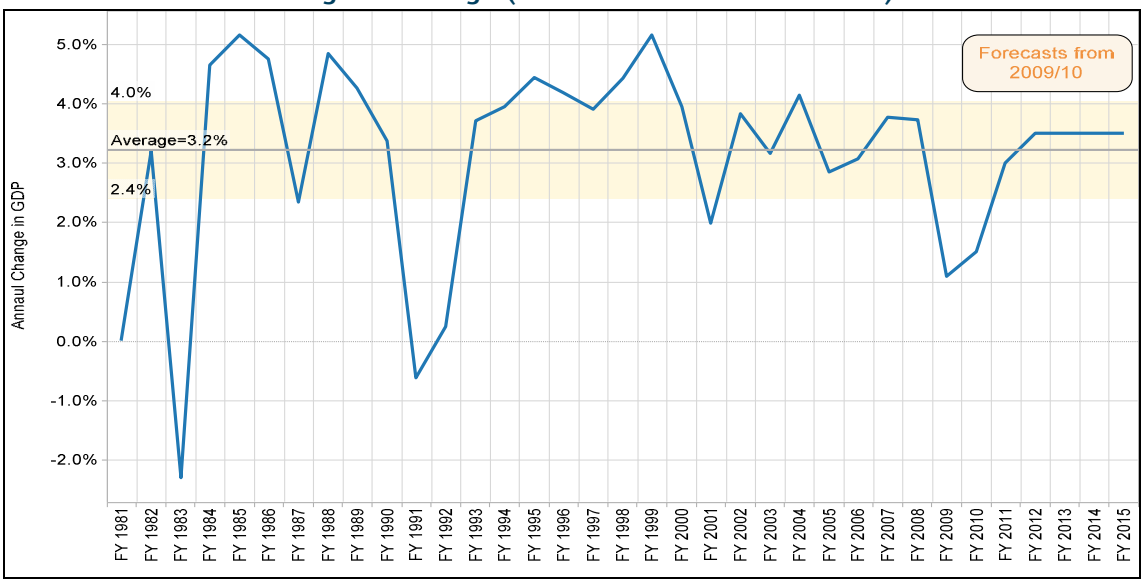
2.2.1 Australian Economic Outlook

Economic indicators found to be important in driving traffic include Australian and State economic factors. **Figure 2.1** shows the annual change in Australian GDP over the period since 1980/81. Also shown are the period average and the range (plus and minus 0.5 standard deviations from the average). It is evident from the chart that the GFC did not impact the Australian economy to the extent of recessions in the early 1980s and 1990s. TFI's projections for Australian GDP are based

on reviews of forecasts by the Australian Treasury, Reserve Bank, Australian Bureau of Agricultural and Resource Economics and Science (ABARES) and private banks and forecasters.

Note that the Australian growth is projected to move to near average levels by 2010/11 and to exceed average levels by 2011/12.

Figure 2.1: Annual Change in Australian GDP – Average and Range (0.5 times Standard Deviation)



Source: TFI.

The Western Australian economy, as measured by Gross State Product (GSP), grew by 4.3% over 2009/10 (**Table 2.2**). This was equal to the historical (20 year) average of GSP growth. Western Australia's 4.3% GSP growth rate was significantly higher than other states. On an industry Gross Value Added basis, the main driver of real GSP growth in 2009/10 for Western Australia was from output in Mining.

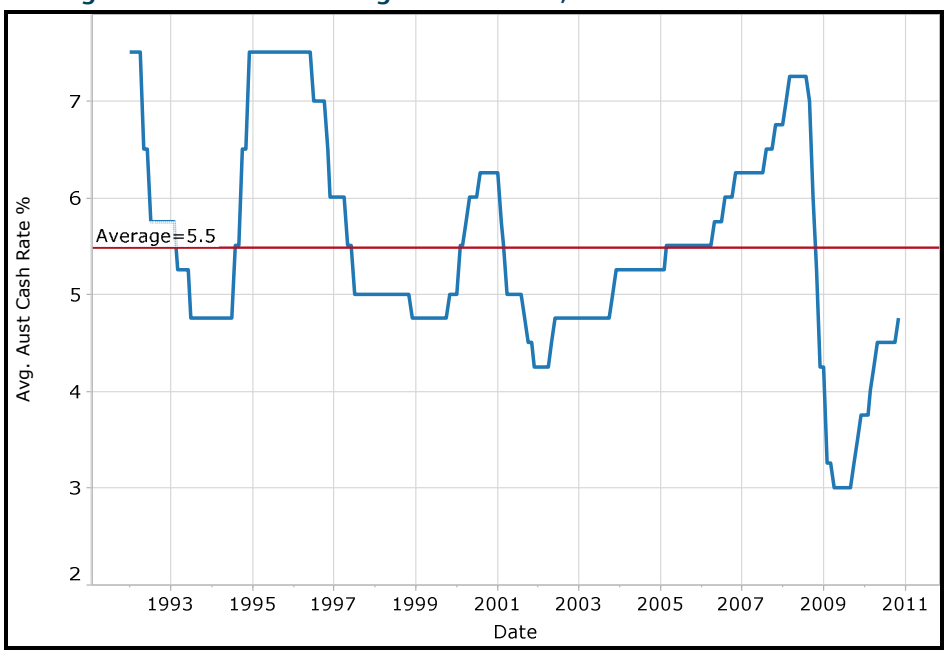
Table 2.2: GDP and WA GSP to 2010, and GSP Assumptions to 2015

	Year end June 30								
	2007	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
	Percent Change on Previous Year								
Australia - GDP	3.6	3.8	1.4	2.2	2.7	3.9	3.0	3.0	3.0
WA-GSP	4.4	4.2	4.1	4.3	4.0	4.8	4.5	4.0	4.0
WA-Real Final Demand	10.4	9.6	3.3	3.5	5.25	5.75	5.25	3.75	3.0

Source: ABS, WA Budget Mid-Year Review, Dec 2010, TFI. Note: Chain Volume Measures; financial years.

Whilst many of the Australian economic indicators look positive at present, there is a downside. Because the mining sector is stimulating strong demand there is pressure on Australia's inflation and the Reserve Bank has been increasing interest rates. As can be seen from **Figure 2.2** interest rates are still below their longer term averages and most economists are forecasting continued upward movement.

Figure 2.2: Australian Target Cash Rates, 1992 to November 2010



Source: TFI based on ABS.

2.2.2 International Economic Outlook

The latest International Monetary Fund (IMF) projections available were released in October 2010, with some projections updated in January 2011. As economic conditions have improved the IMF has upwardly revised its growth forecasts. The latest update shows projected world economic growth during 2010 at 5.0%, up from the 3.1% projected last October, and the 1.9% projected in April 2009. Global growth is projected to achieve 4.4% in 2011.

Recovery is expected to remain sluggish in most advanced economies, where private domestic demand remains weak and net exports are not contributing to growth. By contrast, in many emerging market economies consumption, investment, and net exports are all contributing to strong growth, and output is again close to potential.

Strong growth in developing economies including China and India is expected to underpin steady demand for WA's mineral and petroleum products in the coming years, including the major export resource of the Pilbara region, iron ore:

- China is the major market for WA resources and the Chinese market is expected to drive iron ore's demand in 2011. China accounted for 70% of the total amount shipped for 2009/10; Japan received 18%, South Korea 9% and Taiwan 3%.
- India is the WA's largest gold export destination accounting for 52% of total gold exports in 2009/10.

The GDP growth rates shown in **Table 2.3** suggest ongoing recovery from the GFC particularly for the emerging markets – the main growth markets for steel production and usage.

However, the IMF considers that while economic recovery is proceeding broadly as expected, the downside risks remain elevated; "Unless advanced economies can count on stronger private demand, both domestic and foreign, they will find it difficult to achieve fiscal consolidation. And worries about sovereign risk can easily derail growth. If growth stops in advanced economies, emerging market economies will have a hard time decoupling".

Table 2.3: GDP Assumptions to 2015 – IMF Forecasts

	Year end December 31								
	2007	2008	2009	2010	2011	2012	2013	2014	2015
	Percent Change on Previous Year								
Australia	4.8	2.2	1.2	3.0	3.5	3.5	3.3	3.3	3.2
UK	2.7	-0.1	-4.9	1.7	2.0	2.3	2.4	2.5	2.6
EU	3.2	0.8	-4.1	1.7	1.7	2.1	2.2	2.2	2.2
USA	1.9	0.0	-2.6	2.6	2.3	3.0	2.9	2.8	2.6
China	14.2	9.6	9.1	10.5	9.6	9.5	9.5	9.5	9.5
India	9.9	6.4	5.7	9.7	8.4	8.0	8.2	8.1	8.1
Japan	2.4	-1.2	-5.2	2.8	1.5	2.0	1.9	1.8	1.7
Thailand	4.9	2.5	-2.2	7.5	4.0	4.3	4.5	4.8	5.0

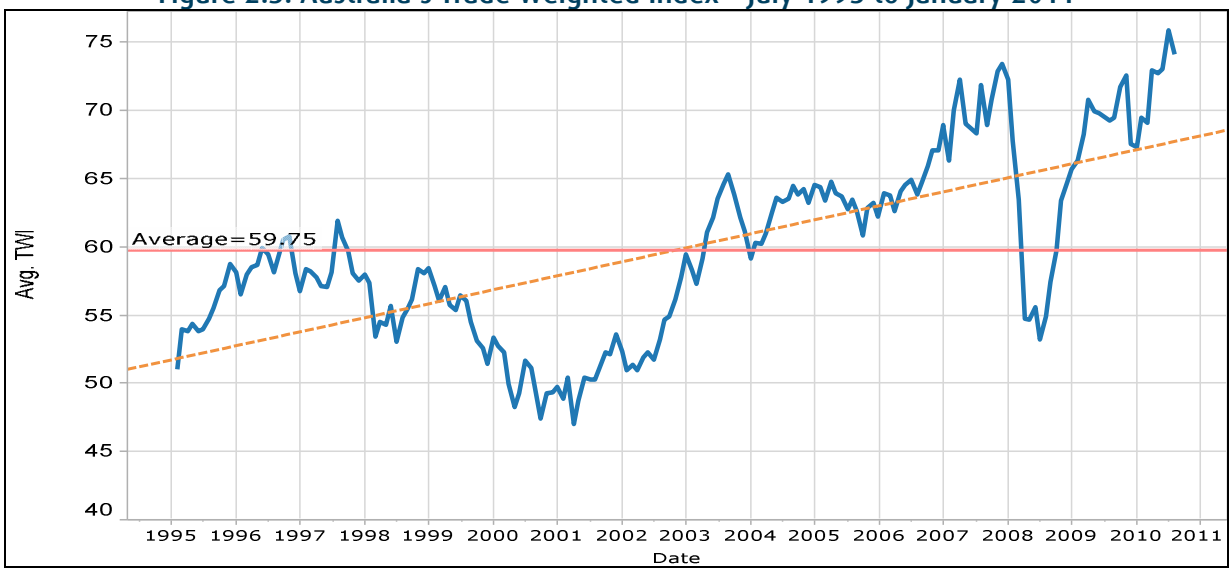
Source: IMF World Economic Outlook October 2010. Note: GDP Constant Prices; IMF estimates 2010 through to 2015; EU European Union.

2.2.3 Exchange Rates

Part of the impact of the mining boom is the high value of the Australian dollar. This is encouraging travel growth overseas by Australians but is discouraging travel to Australia by visitors from overseas. **Figure 2.3** shows the monthly Trade Weighted Index (TWI) for the period from July 1995 to January 2011. The trend to mid-2008 had been for Australia's Trade Weighted Index (TWI) to increase in value (making Australia a more expensive holiday destination). This trend turned from September 2008 with the TWI falling by up to 24%. Rates increased again from September 2009. The January 2011 outcome is 24% above the average for the period shown.

The strongest period in terms of positive impact on Australians travelling abroad (and conversely negative impact on inbound travel) is when the index is above 60 which it has been for much of the period from 2004.

Figure 2.3: Australia's Trade Weighted Index – July 1995 to January 2011



Source: TFI based on Reserve Bank of Australia data.

2.2.4 Mining Industry Outlook for WA and Port Hedland

The Western Australian resources sector is a key driver of the State economy; in 2009/10 the sector accounted for almost 30% of the State's Gross State Product (GSP), and for almost 90% of the State's income from total merchandise exports. China continued to lead as the major market for WA resources.

In 2009/10 the value of sales by the State's mineral and petroleum industry reached $70.9 billion. On average, during the past ten years the resource industry's sales value has grown by 14% per annum. Iron ore remained the State's largest sector in terms of value accounting for $33.7 billion in 2009/10, representing 48% of total sales. The sector shipped record tonnages of iron ore in 2009/10, increasing by 25% to reach 396 million tonnes.

The Pilbara Region accounted for $34.5 billion of the value of mineral and petroleum industry sales in 2009/10 (49% of State total). The immediate Port Hedland and Marble Bar area accounted for $139.8 million in mineral and petroleum sales.

As indicated earlier in this report, the main output from Port Hedland is iron ore. In its recently released publication, *Market Commodities, March Quarter 2011*, ABARES presents its outlook to 2016 for steel and steel-making raw materials. It suggests:

- "Growth in steel consumption in developing Asian economies will form the backbone of world steel demand growth, reflecting the development of infrastructure and rising incomes in these economies."
- "Over the next few years, a significant supply expansion from major iron ore and metallurgical coal producers is expected to place some downward pressure on prices. However, prices for both iron ore and metallurgical coal are forecast to remain well above historical averages."

Table 2.4 summarises the ABARES projections for world crude steel consumption and production and Australia's iron ore production levels.

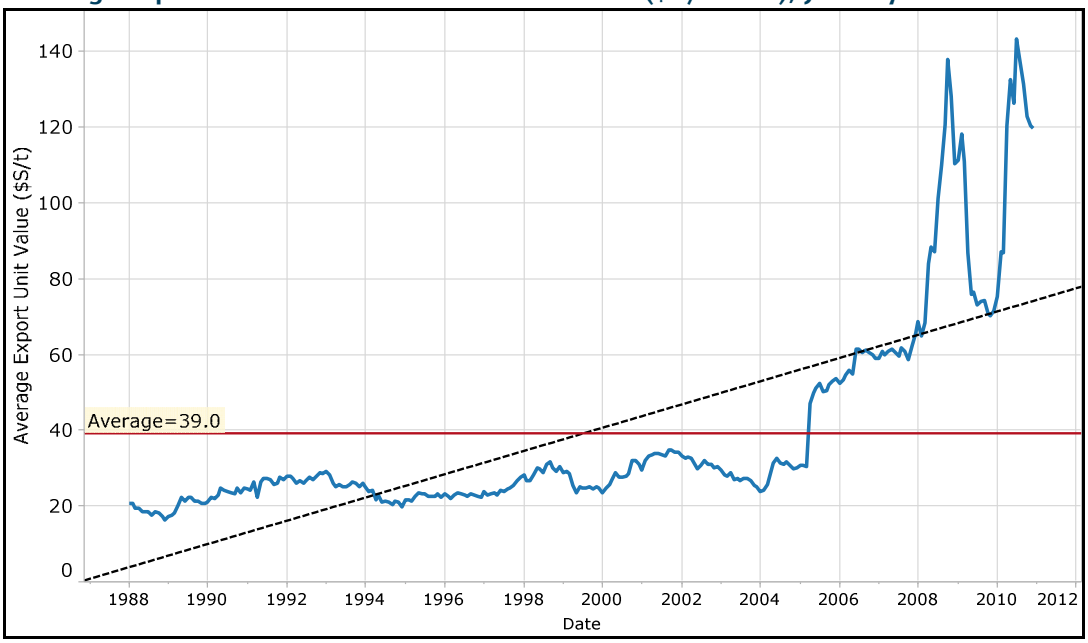
Table 2.4: ABARES Projections - World Crude Steel Consumption and Production; Australian Iron Ore Production, Iron Ore Prices

	2009	2010	2011	2012	2013	2014	2015	2016
	Millions Tonnes							
World Steel Consumption	1,209	1,336	1,410	1,504	1,600	1,703	1,796	1,916
Annual Change (%)		10.5%	5.5%	6.7%	6.4%	6.4%	5.5%	6.7%
World Steel Production	1,220	1,413	1,512	1,609	1,700	1,785	1,887	1,996
Annual Change (%)		15.8%	7.0%	6.4%	5.7%	5.0%	5.7%	5.8%
Australia Iron Ore Production	353	423	448	470	511	538	581	619
Annual Change (%)		19.9%	5.8%	4.9%	8.9%	5.2%	8.0%	6.5%

Source: ABARES.

Figure 2.4 shows the average unit value for Australian iron ore exports since January 1988. Also shown are the trend line and the average unit value over the period. It is clear that by any measure the value obtained for export is well above what might have been expected.

Figure 2.4: Average Export Unit Value for Australian Iron Ore ($A/tonne), January 1988 to December 2010



Source: ABARES.

In its Mid-Year Budget Review the WA Government pointed to the significance of mining activity to economic growth.

- "Investment in the resources sector is being driven by robust demand from key markets in Asia, which has underpinned considerable strength in commodity prices. Reflecting this, a number of major investment decisions have been announced since the budget, including FMG's proposed $US8.4 billion iron ore expansion in the Pilbara, and Rio Tinto's commitment to spend an additional $US7.2 billion to expand its iron ore operations.
- These projects will add to a significant pipeline of existing investment activity, including Chevron's $43 billion Gorgon LNG project, BHP Billiton's Rapid growth Project 5 and Citic Pacific's Sino Iron Ore Project.
- The total value of expected investment spending has increased since earlier in the year. Business investment is expected to grow by 12.0% in 2010-11 and by 10.0% in 2011-12. Although forecasts in the first two years remain relatively consistent with the budget forecasts, forecast growth in the outyears has increased significantly. In 2012-13, business investment is projected to grow by 8.0% in 2012-13 (up from 1.25%) and 4.0% in 2013-14 (up from 1.5%).
- Exports growth is expected to strengthen in 2011-12, supported by an increase in production from major projects in the iron ore and LNG sectors. This includes BHP Billiton's Rapid Growth 5 iron ore project, which will see installed capacity rise by 55 mtpa to 205 mtpa, and Woodside's Pluto LNG plant. Assuming that agricultural exports will also recover, total exports are forecast to grow by 7.0% in 2011-12."

The WA Government's review also indicated a number of risks. These included international factors such as the dependence on continuing growth in emerging economies to fuel commodity growth and domestic factors such as increasing interest rates. In particular the "unpredictable nature of resource investment, particularly in terms of timing, could mean that actual investment patterns are significantly different to those assumed."

A report prepared for Pilbara Industry's Community Council (Heuris Partners Ltd, April 2010) *Planning for resources growth in the Pilbara: revised employment & population projections to 2020* focuses on the need to supply services for the local population but also the strong growth in Fly-In Fly-Out (FIFO) numbers.

The study sought to identify the location of FIFO and construction workforces, drawing on input from individual companies and from local government sources. They serve to demonstrate significant additions to "resident" populations. The conclusion:

- Based on information available as at March 2010, total resource related employment in the Pilbara is projected to grow from some 19,000 in 2008 to some 47,000 in 2015, reaching 53,000+ by 2020. These totals exclude construction workforce numbers which are shown separately.
- Residential employment increases by 28% between 2010 and 2015, from 15,900 to some 20,300, with growth moderating thereafter. FIFO projections grow at a faster rate, increasing by 83% between 2010 and 2015 and by a further 23% to 2020.
- By 2015 57% of Pilbara resource related employment is expected to be FIFO, up from 49% in 2010; by 2020 this proportion increases to 62%.
- Projected construction activity generates construction employment reaching over 22,000 in 2010, peaking at some 28,000 in 2012 and dropping sharply away from 2015 onwards. It is noted that "these numbers are likely to be conservative because a number of companies have only chosen to include expansion/new projects at an advanced planning or approvals stage." Nearly all of these workers can be expected to be FIFO.
- Projections indicate FIFO/construction workers can inflate Estimated Resident Population numbers by 20-40% at peak activity periods.

A study by Syme Marmion & Co. for the WA Regional Development Council, *Extractive Industry and Sustainable Regional Development* (June 2010), also indicates that labour requirements are generally expected to be well above population growth trends in the mining regions, with the requirement for labour highest in the construction phase and moderating once they are fully operational. This requirement for labour over the long term population growth projections indicates a continuing need for FIFO models of employment in the extractive industries.

The WA Department of Mines and Petroleum (DMP) shows the average number of persons employed in the WA iron ore industries during 2009 at 26,051 (and up from 22,416 in 2008). The Heuris report (referred to above) notes that iron ore projects are the dominant driver of operating employment in the Pilbara; oil and gas projects tend to be very capital intensive, employing relatively fewer operating staff but generating very high demands for construction workers.

The latest Department of State Development list of major resource projects (December 2010) indicates that there is more than $42.8 billion worth of iron ore projects either committed or under consideration for the State during the next few years. These projects are expected to create more than 20,450 construction jobs and 9,470 permanent jobs. In contrast oil, gas and condensate projects worth $119 billion are expected to create more than 19,000 construction jobs but generate just 1,500 permanent jobs.

Many of these major resource projects involve direct infrastructure development at Port Hedland. The BHPB Rapid Growth Projects 5 and 6, for example, include dual tracking of sections of the railways and additional berths at Port Hedland inner harbour; Hancock Prospecting's Roy Hill iron ore project (expected to come into production in 2014) also includes the development new railway and port facilities at Port Hedland.

2.2.5 State and Regional Demographic Projections

Population is generally an important longer term influence on traffic growth. However in the case of PHE with its strong FIFO component, the key driver is mining sector requirements for labour. From this perspective the populations of Perth, WA and Australia may be a more important influence than the local population. **Table 2.5** provides population levels and projections for Port Hedland, Perth, WA and Australia:

- Port Hedland's population was estimated at 14,072 persons in 2008/09. The resident population is forecast to grow relatively slowly to reach around 16,300 by 2024/25 and 16,700 by 2029/30.

- Perth's population is projected to grow to 1.9 million by 2024/25 and 2.0 million by 2029/30 with the WA population to grow to 2.7 million by 2024/25 and 2.8 million by 2029/30.

- Australia's population is projected to grow to between 25.7 million and 28.3 million by 2024/25 according to ABS projections. (A 2010 report by the Australian Treasury *Australia to 2050: Future Challenges* indicates that by 2030 the Australian population is projected to reach 29.2 million, the upper end of the ABS projections).

Table 2.5: Population and Projections; Port Hedland, Perth, WA and Australia

FY	2001	2006	2009	2015	2020	2025	2030
	'000s Person 30 June						
Port Hedland							
Actual*	12.8	12.9	14.1				
CAGR		0.1%	3.0%				
Projections**		13.5	14.2	15.0	15.7	16.3	16.7
			1.7%	0.9%	0.9%	0.8%	0.5%
Perth							
Actual*	1,393	1,519	1,659				
		1.7%	3.0%				
Projections**		1,498	1,567	1,711	1,827	1,933	2,026
			1.6%	1.5%	1.4%	1.2%	1.0%
Western Australia							
Actual*	1,901	2,059	2,245				
		1.6%	2.9%				
Projections**		2,049	2,145	2,343	2,504	2,652	2,778
			1.5%	1.5%	1.3%	1.1%	0.9%
Australia							
Actual*	19,413	20,698	21,955				
		1.3%	2.0%				
Projections-Series A***		20,698	21,955	24,017	26,098	28,281	30,500
			2.0%	1.5%	1.7%	1.6%	1.5%
Projections-Series B ***		20,698	21,665	23,636	25,288	26,916	28,484
			1.5%	1.5%	1.4%	1.3%	1.1%
Projections-Series C***		20,587	21,626	23,267	24,548	25,742	26,852
			1.7%	1.2%	1.1%	1.0%	0.8%

Note: CAGR = Compound Annual Growth Rate
Sources: * ABS 3218.0 Regional Population Growth, Australia
** Department for Planning and Infrastructure (2005.) WA Tomorrow Population Report No. 6, Prepared for the Western Australian Planning Commission
*** ABS Projections, 3222.0 Population Projections, Australia, 2006 to 2101, Series B.

TFI is aware that Port Hedland is developing a plan to target a population of 50,000 persons by 2035, a projection generated on the basis of the "aspirational" Pilbara Cities initiative[1]. Under Pilbara Cities, the overall resident population of the Pilbara region is planned to grow to more than

[1] Pilbara planning and infrastructure framework, Draft. WA Planning Commission February 2011

140,000 by 2035 representing 5% annual compound growth, based on a significant diversification of the economic base of the major centres[2].

In the Pilbara Industry's Community Council report referred to earlier, the estimated resident population of Port Hedland is projected to grow from 15,800 in 2010 to 19,000 in 2015 and to 19,900 in 2020. Over the same period the Pilbara population is projected to grow from 51,100 in 2010 to 61,100 in 2015 and to 62,500 in 2020.

[2] Under the Pilbara Cities vision, by 2035 Karratha City (Karratha/Dampier) and Port City (Port Hedland/South Hedland) will each grow to 50,000, Newman to 15,000 and other settlements to 25,000, totalling 140,000 for the Pilbara region.

2.3 Aviation Sector Business Environment

2.3.1 Global Airline Performance

The International Air Transport Association (IATA), in its March 2011 Financial Forecast, provides the industry overview produced in **Table 2.6**. Traffic growth forecasts have been revised upwards as we have moved out of the GFC. IATA also became more positive about financial prospects for 2010, with the latest estimate of a net industry profit of USD16 billion compared with double-digit losses during the previous two years. However forecasts for airline industry profits in 2011 have been significantly downgraded due to the recent surge in oil and jet kerosene prices.

IATA notes the reduction in profitability would have been much greater were it not for upward revisions to economic growth this year together with relatively stable and high load factors; when economies are strong higher yields make it possible for airlines to limit the profitability damage from high oil prices. The risk to this outlook is that should economies weaken, under pressure from commodity prices and debt, airline profits could weaken much faster than currently forecasted.

This global review shows how sensitive the airlines (with their high capital costs and low profit margins) are to economic fluctuations and high oil prices.

Table 2.6: IATA Global Aviation Industry Performance (% change over previous year)

System-wide Commercial Aviation	Years ended 31 December									
	2002	2003	2004	2005	2006	2007	2008	2009	2010E	2011F
Pax Traffic Volume	1.0%	2.3%	14.9%	7.0%	5.0%	6.4%	1.5%	-2.1%	7.3%	5.6%
World Economy	2.7%	2.8%	4.2%	3.4%	4.0%	3.8%	1.7%	-2.3%	3.8%	3.1%
Pax Yield	-1.7%	2.4%	2.6%	2.7%	7.8%	2.7%	9.5%	-14%	6.1%	1.5%
Crude Oil Price, Brent, USD per barrel	$25.1	$28.8	$38.3	$54.5	$65.1	$73.0	$99.0	$62.0	$79.4	$96.0
Fuel as % of Expenses	13%	14%	17%	22%	26%	28%	33%	26%	26%	29%

Notes: Estimate for 2010 and forecast for 2011 as at March 2011. Source: IATA.

2.3.2 Oil Prices

Airline fuel prices will have an impact on airline costs and the ability of airlines to stimulate demand through pricing. Jet fuel prices (shown in **Figure 2.5**) fell from a peak of USD166.48 per barrel in July 2008 to a low of USD52.78 by February 2009. Prices have since increased; at USD96.50 in January 2011 the crude oil price was up 141% on its December 2008 low.

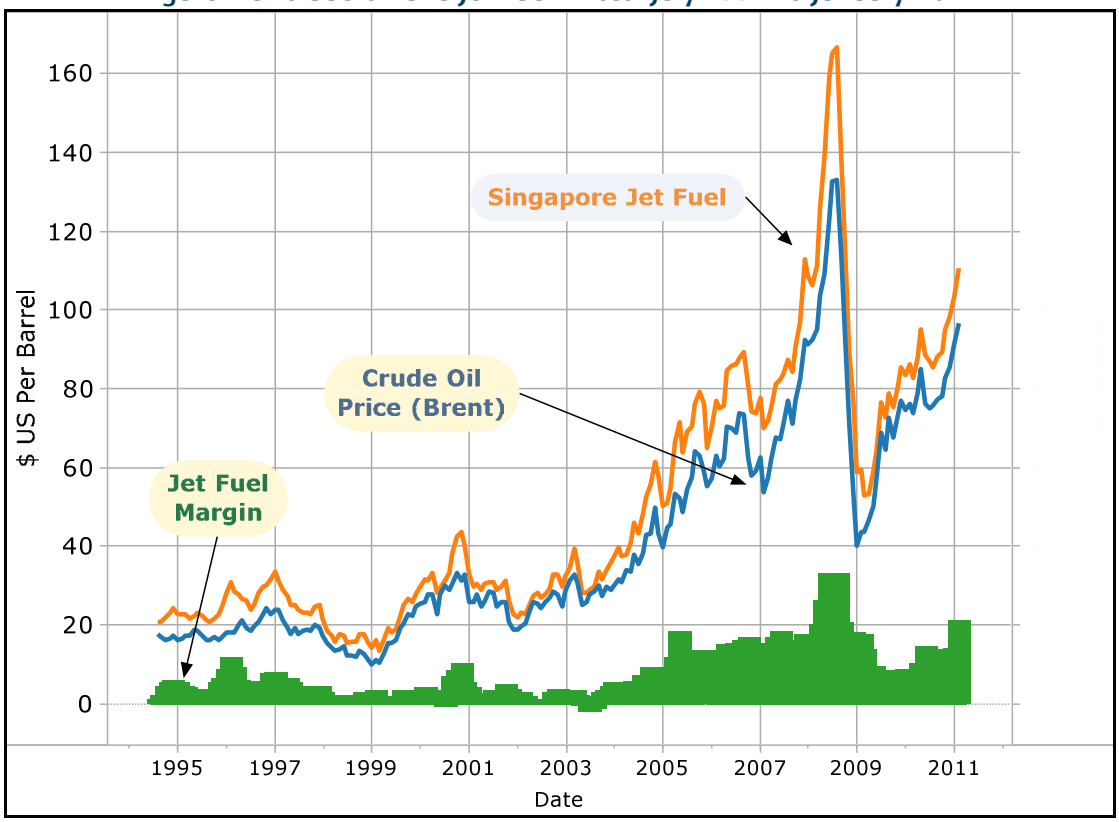
IATA, in its March 2011 Industry Outlook forecasts crude oil prices to rise from an average price per barrel of USD62 in 2009 to USD79 in 2010 and to USD96 in 2011 (shown in **Table 2.6** above).

Airlines, including Qantas, Virgin Blue, Singapore Airlines, British Airways and All Nippon Airways, have announced increases in fuel surcharges. Qantas has also announced an increase in domestic, regional and Tasman air fares by up to 5% as the second part of its response to high oil and jet fuel prices. Virgin Blue is increasing its international short haul fares on Pacific Blue and Polynesian Blue flights by up to $20 per sector and domestic fares by between $6 and $10 per sector. Air New Zealand is increasing fares to Australia and the Pacific Islands by an average of 8% and long haul fares by an average of 7%.

Instability in the Middle East is emerging as a contributing factor to rising fuel prices.

Movements in oil prices remain a significant risk factor.

Figure 2.5: Crude Oil and Jet Fuel Prices: July 1994 to January 2011



Source: TFI based on US Energy Information Administration.

2.3.3 National Domestic Airline Capacity Developments

Qantas Group:

- Thirteen aircraft were added to the Qantas Group fleet during the first half of 2010/11 (six purchased, seven leased). Qantas added one A380 and one A330-200. Jetstar, including Jetstar Asia, added ten A320-200s and one A330-200. One leased B747-400 was returned.
- Fourteen aircraft deliveries were planned for the second half of 2010/11. Three A380s, six B737-800s, one Q400 and three F100s for Qantas. One A330-200 for Jetstar. One B747-400 and two B737-400s are to be retired.
- Expected delivery schedule for the B787s has again been delayed: first eight B787-8 deliveries are now expected from late-2012, with the remaining seven from 2014 along with the 35 B787-9s on order. All 50 are to be delivered by end 2017/18. Jetstar is to receive the first 15 B787s to support international growth. Jetstar's A330-200s will be transferred to Qantas, replacing B767s. Deliveries from 2014 will allow for the retirement of Qantas' remaining B767-300ER fleet and provide for international growth for Jetstar and Qantas. Qantas retains the ability to purchase up to 50 additional aircraft.
- Jetstar's eighth A330 was added in December 2010; fleet is to be increased to eleven by June 2012 to consolidate international growth. Two A330s are to be based in Singapore. The aircraft will allow for Jetstar's international growth ahead of the delivery of the B787s. In its most recent fleet update Qantas announced the lease of another A330-200 for Jetstar. Qantas increased its A330-200 fleet from seven to eight during the first half of 2010/11.
- Jetstar's A320 deliveries are being accelerated. As at January 2011 Jetstar had 56 A320s in the fleet (including 12 for Jetstar Asia, excluding two for Jetstar Pacific), with 44 still to be delivered. Two A320s are to be delivered during second half 2010/11 and 15 during 2011/12 (including to Jetstar Pacific). In its recent fleet update Qantas announced the lease of 10 additional A320s, and the extension of leases on 11 A320s. Firm deliveries of the A320s for Jetstar through to end 2017/18 now totals 54.

- New weekly Qantas B737-800 services from Sydney and Melbourne to Karratha commenced in May 2010 and from Melbourne to Port Hedland in September 2010. As at December 2010 Qantas had 41 B737-800s in its fleet, with 28 still on order. Orders for 12 of the aircraft had been deferred for an average of 14 months during the GFC. As part of its most recent fleet update Qantas announced the lease of five additional B737-800s, and the extension of leases on two B737-800s. Qantas now has 33 B737-800s on order, including the five announced as part of the update.
- Internationally configured wide-body aircraft are to be deployed on routes between the eastern states and Perth, including B747s.
- QantasLink is adding seven new Q400 aircraft to its fleet of 21, the first of which has just entered service. A total of four are scheduled for delivery by December 2011.
- QantasLink will oversee the Group's move into the WA FIFO resources air charter market through the purchase of Network Aviation. Network Aviation operates a fleet of two 100-seat Fokker 100 aircraft and six 30-seat Embraer Brasilia EMB-120ER aircraft.
- Qantas recently announced the purchase of 10 Fokker 100s for Network Aviation and the lease of two additional B717s for QantasLink (taking the number of B717s to 13). The total QantasLink fleet (including Network Aviation) will increase from 61 to 80 by 2015.

Virgin Blue:

- During the first half of 2010/11 Virgin Blue received four B737s (three on lease were returned, taking total to 63), and one B777 (V Australia's fifth). The Group is taking delivery of 10 new aircraft in the remainder of 2010/11 – 5 B737s, 3 E190s and 2 A330s.
- 70 B737s remained on order as at December 2010. This includes the recent fifty firm orders for B737-800NG aircraft (with flexibility to convert to either -700s or -900s) scheduled for delivery from June 2011 through to 2017. 25 additional firm delivery positions have been secured as options and 30 as future purchase rights. A significant percentage of the aircraft is intended for replacement of the existing narrow body fleet.
- Virgin Blue is to add wide body aircraft to its domestic fleet from May 2011. The first of two A330s to be delivered during the third quarter of 2010/11 will be used on the Sydney-Perth route. An additional two new A330-200 aircraft are to be added to the fleet during the third quarter of 2011/12, bringing the total number to four, with these aircraft dedicated to domestic services between the East Coast and Perth.
- All six E170s are to be removed from the fleet (three in the second half of 2010/11 and three during 2011/12); three E190s are to be delivered during 2010/11.
- The Virgin Blue/Air New Zealand alliance, which recently received ACCC approval, will connect regional centres in Australia and New Zealand, as part of a Tasman journey (but does not include domestic-only travel in either Australia or New Zealand).

Virgin Blue/Skywest Alliance:

- The Virgin Blue Group and Skywest airlines have signed a 10 year strategic alliance to service regional Australia. The airlines existing codeshare arrangement covers ten Skywest destinations.
- Virgin Blue will expand its reach throughout regional Australia "… to access untapped opportunities in regional Australian markets, in particular the booming fly-in fly-out resource sector market". Skywest will be a service provider and codeshare partner.
- Up to 18 ATR72 turboprop aircraft are to be introduced as part of the alliance. The first four of the ATR Turboprop 68 seater aircraft will be introduced from the middle of 2011, with a further four to arrive in 2012. The ATR is to form the foundation of Virgin Blue's regional network plans, with the first six replacing the E170 fleet and the additional aircraft flying to new regional destinations in Eastern Australia. Under the wet lease arrangement, Skywest is to provide the technical and cabin crew and source the maintenance provider of the fleet.

Skywest Airlines:

- Skywest Airlines currently operates a fleet of eight Fokker 50 turbo-prop aircraft (46 passengers) and nine Fokker 100 (100 passengers) jet aircraft.
- A leased A320-200 (162 passengers) commenced operations in late 2010, taking the fleet to 18 aircraft. The A320 was to be principally used for resource charter services.
- As at June 2010 the airline estimated that it held a market share of around 28% in relation to FIFO charter services (up from 2% in 2002).
- Skywest has been selected as the preferred proponent for a further licence of 5 years for continuing air services for the regulated proportion of the coastal network, including the routes of Perth to Albany, Esperance in a sole operator capacity and Learmonth/Exmouth in a shared operator capacity. Skywest will continue to fly Perth to Geraldton as a deregulated route, with onward connections to Melbourne. As from 1 March 2011 the airline no longer operates to Carnarvon, Monkey Mia/Shark Bay or Kalbarri (now operated by Skippers Aviation).

Strategic Airlines:

- Strategic acquired its third A320 in early-2010. Also has an A330 in its fleet.
- Launched a new service between the east coast of Australia and the Pilbara region of WA in August 2010. Weekly A320 services are operated from Brisbane to Port Hedland. Plans to operate Melbourne/Port Hedland services were deferred.
- Also in August 2010 Strategic commenced weekly services between Port Hedland and Denpasar (Bali), followed by Townsville-Denpasar services in December 2010. The Port Hedland services are to be withdrawn from 23 March 2011; Brisbane-Denpasar direct services commence the same month.

Airnorth:

- Airnorth currently has three Embraer 170s, four Embraer 120s and three Fairchild Metro 23s in its fleet.
- Two new services were launched in June 2010 - from Darwin to Port Hedland and Karratha, via Broome. The E170 services offer a weekly direct link between Port Hedland and Karratha, and between Port Hedland and Broome.

Tiger Airways:

- Tiger Airways plans to increase its fleet beyond the current ten A320 aircraft based in Australia were deferred until April 2011, at which time the airline plans to increase its Australian seat capacity by at least 20% (for the period April to October 2011).
- Eleventh aircraft for Australia is due in April 2011.
- The Group plans to grow its total fleet from 25 A320 aircraft currently to 35 by March 2012, and 68 by December 2015.
- New routes for early 2011 include Brisbane-Sydney (three daily return services), Brisbane-Avalon (daily), and Sydney-Sunshine Coast (daily). Capacity on a number of routes is to be increased, including Melbourne–Perth and Melbourne–Alice Springs.

3. Projection Summary

3.1 The Challenge of Forecasting Mining-Related Growth

The challenges in forecasting for Port Hedland and other mining-driven airports arise because:

- Strong demand for commodities over recent years has driven up commodity prices and these high prices justify huge increases in mining investment.
- Construction activity for new iron ore projects in the Pilbara has been responsible for the growth in passenger traffic.
- High prices lead to supplier countries expanding capacity at the same time as emerging market steel manufacturers look for cheaper alternative sources of supply.
- These factors lead to an excess supply and falling prices. In response new resource projects are deferred.
- This can lead to periods of strong growth in traffic followed by periods of decline. One of the greatest forecasting challenges is predicting when such a cycle will end and when a new cycle will begin.

TFI has tested a number of models linking PHE traffic to drivers such as:

- National economic factors such as GDP and Private Consumption Expenditure (PCE).
- Economic growth in countries that import minerals from WA and the Pilbara.
- WA Gross State Product (GSP).
- National, WA and regional populations.
- WA variables such as production, exports and imports, CPI, employment levels.
- Mining-related variables such as national iron production, iron ore prices and WA construction activity (much of which is mining related).

A number of the models performed well in explaining past growth. For example, models related to WA GSP. They project steady growth over the next 20 years. However use of mining-related variables leads to strong growth in the two to five year period, reaching high levels of traffic before declining. This occurs because of a reasonable expectation that mining is cyclical even when there is strong demand from countries such as China and India.

The best models relate activity levels at PHE to WA Real Final Demand (RFD) and WA Iron Ore Production levels. As production levels grow passenger traffic accelerates. On the other hand a slowing of production growth leads to a decline in passenger numbers. The pattern is one of strong growth over the next few years and then a decline.

TFI has used a scenario-based process for projecting Port Hedland traffic. Traffic has been projected based on:

- Growth in total traffic incorporating both resource-oriented and non-resource-oriented traffic. Two levels of forecast were developed – one with iron ore production levels projected by TFI using time series analysis, the other based on growth rates for national iron ore production as projected by ABARES.
- Growth in non-resource-oriented traffic. In reviewing traffic behaviour prior to the collapse of Ansett in September 2001 and prior to the acceleration in mining-related traffic from around 2003, TFI found an elasticity of passenger traffic to RFD of around 0.5 to 1.0 (i.e. every 1% increase in RFD generates between a 0.5% and 1% increase in passenger traffic to PHE).

Based on this analysis TFI has developed the following scenarios:

- Scenario 1: based on the higher level of iron ore production and with a higher base (non-mining boom) level of traffic. Traffic for Port Hedland peaks at around 610,000 passenger movements in 2014/15 and begins to decline towards the base traffic levels.
- Scenario 2: based on a lower level of iron ore production and a lower base level of traffic than Scenario 1. Traffic for Port Hedland peaks at 460,000 in 2013/14 for this scenario.
- Scenario 3: Scenarios 3 and 4 are extensions of the first two scenarios. Scenario 3 takes the peak level of 610,000 for 2014/15 from Scenario 1 and extends it forward to a level of 700,000 by 2030/31 (the CAGR for 2009/10 to 2030/31 is 4.2% for this scenario).
- Scenario 4: This Scenario takes the peak level of 460,000 for 2013/14 from Scenario 1 and extends it forward to a level of 600,000 by 2030/31 (the CAGR for 2009/10 to 2030/31 is 3.4% for this scenario).

3.2 Passenger Projections

Table 3.1 shows the passenger movement forecasts (they are also presented in **Figure 3.1**). Scenarios 1 and 2 show the passenger movements growing from 297,000 in 2009/10 to peak at 610,000 in 2014/15 (for Scenario 1) and 460,000 by 2013/14 (for Scenario 2). Scenarios 1 and 2 show the decline from these peaks back to underlying base traffic levels before increasing.

Scenarios 3 and 4 show the growth from the peak levels of Scenarios 1 and 2 to between 600,000 and 700,000 passengers by 2030/31.

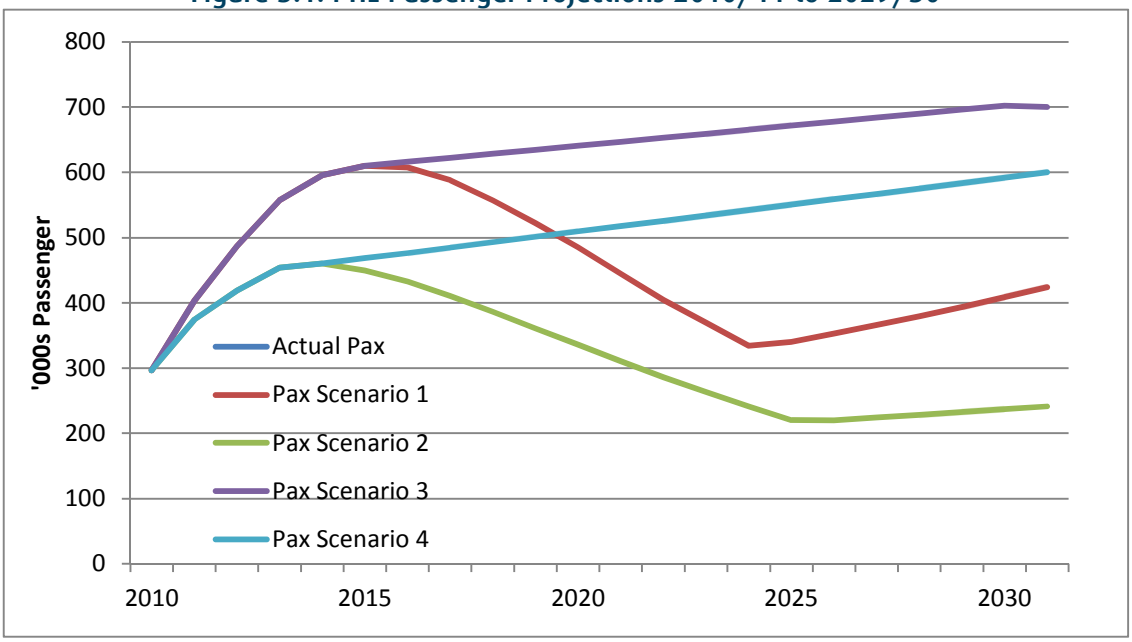
Note that TFI's expectation is for limited growth in international passengers driven largely by outbound travel related to mining activity. However it is also possible that growth could occur due to the need to expand the labour force from overseas.

Table 3.1: PHE Passenger Projections 2010/11 to 2030/31 ('000s Passenger Movements)

Years end 30 June	Actual Pax	Pax Scenario 1	Pax Scenario 2	Pax Scenario 3	Pax Scenario 4
	'000s Passenger Movements				
2010	297	297	297	297	297
2014		596	460	596	460
2015		610	449	610	468
2020		485	336	641	509
2025		340	220	671	551
2030		409	237	702	592
2031		424	241	700	600
2020 on 2010		5.0%	1.2%	8.0%	5.6%
2031 on 2010		1.7%	-1.0%	4.2%	3.4%

Source: TFI.

Figure 3.1: PHE Passenger Projections 2010/11 to 2029/30



Source: TFI.

3.3 Aircraft Movement Projections

Table 3.2 shows the total aircraft movement projections.

The passenger forecasts are used to generate aircraft movement forecasts. The current mix is around 47% of RPT aircraft movements with aircraft of B737/A320 size (average of around 166 seats) with 49% of 100 to 115 seats and a small number of movements with 76 seat aircraft. TFI expects the proportion of B737 size aircraft to increase over time. Only the one movement mix scenario has been developed at this stage.

Table 3.2: PHE Total Aircraft Movement Projections 2010/11 to 2030/31 ('000s Aircraft Movements)

Years end 30 June	Actual RPT Aircraft Movts	Aircraft Movts for Pax Scenario 1	Aircraft Movts for Pax Scenario 2	Aircraft Movts for Pax Scenario 3	Aircraft Movts for Pax Scenario 4
	'000s Aircraft Movements				
2010	3.5	3.5	3.5	3.5	3.5
2014		6.7	5.3	6.7	5.2
2015		6.9	5.2	6.9	5.3
2020		5.4	3.9	7.2	5.7
2025		3.8	2.6	7.4	6.2
2030		4.5	2.7	7.7	6.6
2031		4.5	2.6	7.4	6.5
2020 on 2010		4.6%	1.1%	7.5%	5.1%
2031 on 2010		1.2%	-1.0%	3.7%	2.9%

Source: TFI.

4. Glossary

Data sourced from the Bureau of Infrastructure, Transport and Regional Economics (part of Australian Department of Infrastructure, Transport, Regional Development and Local Government).

Regular public transport (RPT): air service operations in which aircraft are available for the transport of members of the public, or for use by members of the public for the transport of cargo.

Revenue passengers: now includes all passengers paying any fare (frequent flyer redemption passengers are now regarded as revenue passengers). This change is being phased in for international collections.

Major Australian-registered Airlines: those airlines which perform scheduled RPT operations within Australia and its Territories and whose fleets include high capacity aircraft, that is, aircraft with more than 38 seats or with a payload greater than 4,200 kilograms. Subsidiary regional airline operations in jet aircraft are included, while operations in turbo-prop aircraft by subsidiaries are also included for the top 33 competitive pairs only. This latter part of the definition makes it difficult to compare with past data.

Domestic airlines: Revenue traffic carried by the operators of scheduled domestic regular public transport services, and excluding charter (non-scheduled) and regional airline services. This sector includes those airlines performing regular public transport services and whose fleets contain high capacity aircraft, currently defined as aircraft with more than 38 seats or with a payload of more than 4,200 kilograms.

Regional airlines: Revenue traffic carried by the operators of scheduled regional regular public transport services, and excluding charter (non-scheduled) services. This sector includes those airlines performing regular public transport services and whose fleets contain exclusively low capacity aircraft, currently defined as aircraft with 38 seats or less or with a payload of 4,200 kilograms or less.

Airport traffic statistics: cover revenue traffic uplifted and discharged at principal Australian airports by the operators of RPT services. International and regional airline traffic is based on uplifts and discharges within flight. Data for domestic airlines is based on traffic on board by stages, which aggregates all traffic on each flight stage arriving at or departing from the airport.

Available Seat Kilometres (ASKs): Available seat kilometres are calculated by multiplying the number of seats available on each flight stage by the 'Great Circle Distance' in kilometres between the ports.

Origin/Destination: the country of residence or main destination of passengers.

Uplift/Discharge: the point of embarkation or disembarkation on a flight.

Abbreviations

ABARES: Australian Bureau of Agricultural and Resource Economics and Sciences.

ABS: Australian Bureau of Statistics.

BITRE: Bureau of Infrastructure, Transport and Regional Economics.

CAGR: Compound Annual Growth Rate.

CPI: Consumer Price Index.

DMP: Department of Mines and Petroleum, WA.

FIFO: Fly-in Fly-out.

FY: Financial Year.

GDP: Gross Domestic Product.

GFC: Global Financial Crisis.

GSP: Gross State Product.

IATA: International Air Transport Association.

IMF: International Monetary Fund.
PAX: Passengers.
PCE: Private Consumption Expenditure.
PHE: Port Hedland.
RBA: Reserve Bank of Australia.
RFD: Real Final Demand
RPT: Regular Public Transport.
TFI: Tourism Futures International.
TWI: Trade Weighted Index.
USD: United States Dollar.
WA: Western Australia.

Disclaimer

The Forecasts described in this Proposal have been prepared on behalf of, and for the exclusive use of, Port Hedland Airport (PHE) and are not intended for third parties. TFI accepts no liability or responsibility whatever for or in respect of any use of or reliance upon this report by any third party.

Accordingly TFI provides the Forecasts on the understanding that: -

1. The business environment is uncertain and that forecasting provides a guide only in respect of the planning for traffic at PHE. Forecasts are based on a number of economic and other assumptions and must be interpreted in the context of these assumptions;

2. TFI disclaims all and any liability to any person in respect of anything and of the consequences of anything done or omitted to be done by any such person in reliance, whether whole or partial, upon the whole or any part of the Forecasts;

3. TFI is neither responsible for the accuracy of the Forecasts, nor makes any representations nor assumes any duty of care in respect of any of the Forecasts;

4. TFI will not be liable in contract, tort or otherwise for any damages expense, loss or liability suffered or incurred by PHE however caused in respect of the Forecasts;

5. PHE will not rely upon any of the Forecasts in entering into any contract or other arrangements;

6. The Forecasts will be developed solely for use by PHE and not for the use of third parties; and

7. In the event that all or part of the Forecasts are provided by PHE to any third party, PHE will assume responsibility for ensuring that the third party accepts the Forecasts on the same basis as described in (1)-(6) above.