



ATFM/CDM Developments

Does Australia need to expand Domestic ATFM to Cross Border ATFM?

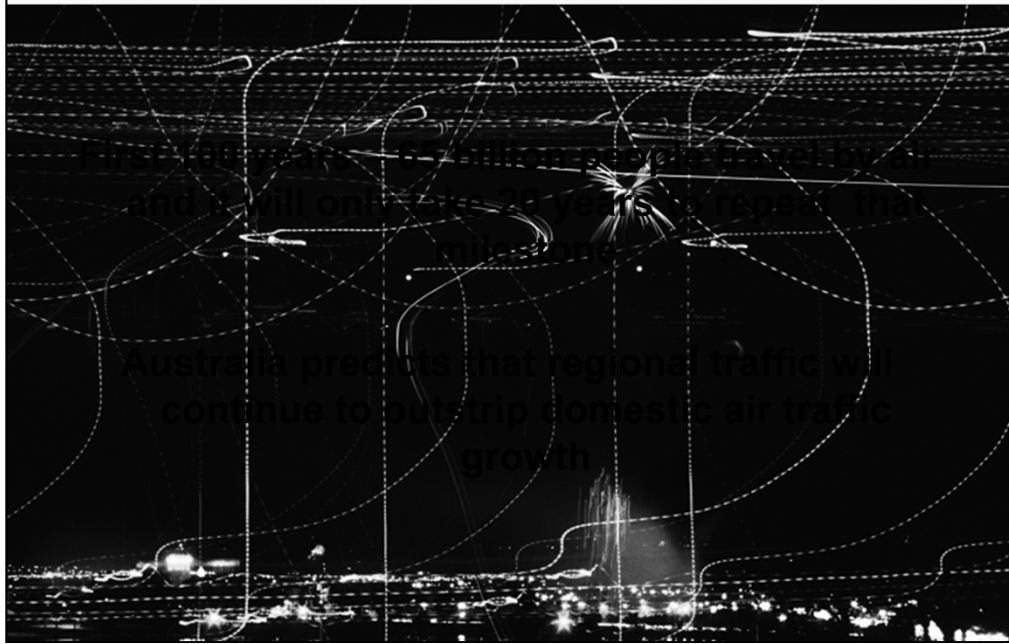
Armando de Olim
Line Manager – National Operations Centre
Airservices Australia

21 Oct 2015
Jakarta

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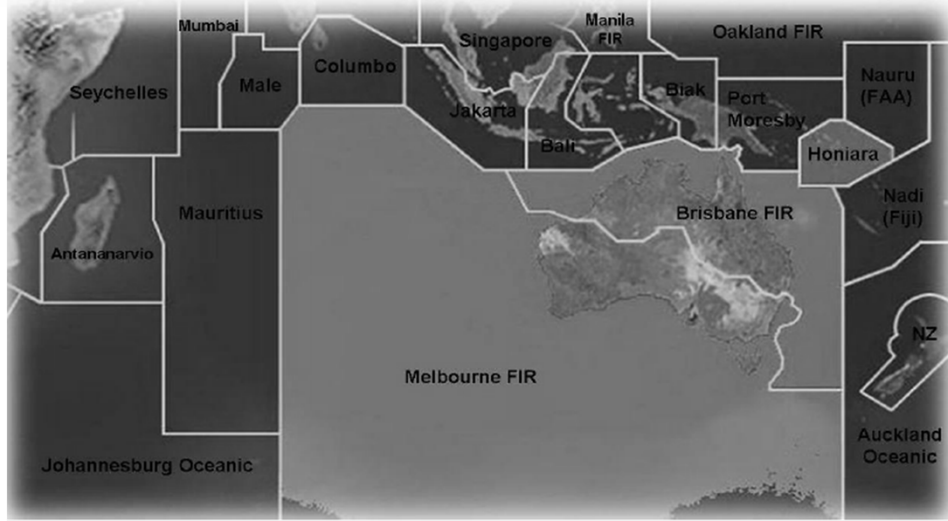
I am going to give you a quick broad overview of Airservices

Reality



Australia predicts that regional traffic will continue to outstrip domestic air traffic growth.

Flight Information Regions



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Australian ATFM Background

- 1994: Controlled Departure Time Program (CDTP) – first attempt to reduce airborne delays by controlling departure times
- 1995: The Australian Government introduced the Sydney Demand Management Act and mandated an airport slot scheme
- 1998: CDTP Replaced by the Central Traffic Management System (CTMS)
- 2007: Airservices review estimate the cost of arrival delay for industry in Australia at our major ports at ~AUD 65M per year
- 2008: ATFM “proof of concept” application. Metron Aviation’s Harmony for ANSPs tool to be used and the establishment of the Airservices National Operations Centre in Canberra
- 2012 – Ground Delay Program – SYD, BNE, PER, MEL (2014)

Managing Demand – ATFM using Metron

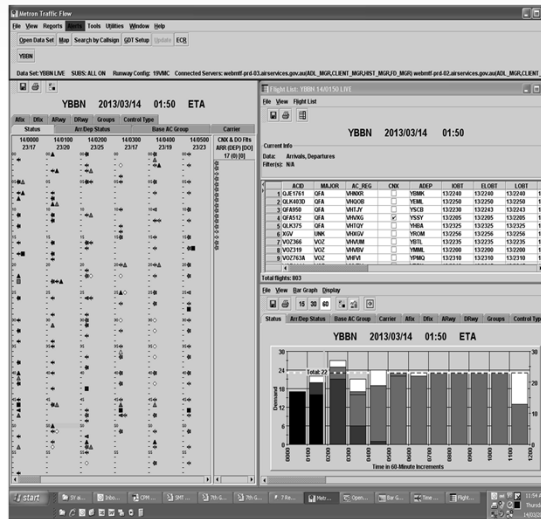


WHAT is it?

- ATFM in Australia addresses demand capacity imbalances for arrivals at an airport by assigning ground delay to domestic flights at their point of departure.
- This ATFM system uses Harmony software.

WHAT are the Benefits?

- Reduction in airborne holding, fuel and aircraft emissions savings
- Improved ability to predict and manage ATC workload = greater safety and predictability
- Access to predicted demand/capacity information for all stakeholders
- Common information for decisions to be made in a collaborative manner



Key Challenges - Next Decade



- **Managing the growth of air traffic**
 - demand and capacity management
 - transition to satellite based navigation & surveillance
- **Overcoming the challenges of an ageing workforce**
- **Introduction of an integrated Civil-Military ATM platform**
- **Managing community expectations – aircraft noise**
- **Continued & timely investment in Communication, Navigation & Surveillance (CNS) infrastructure – to better service the airline customers**

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Key Challenges

Managing the growth of air traffic

demand and capacity management

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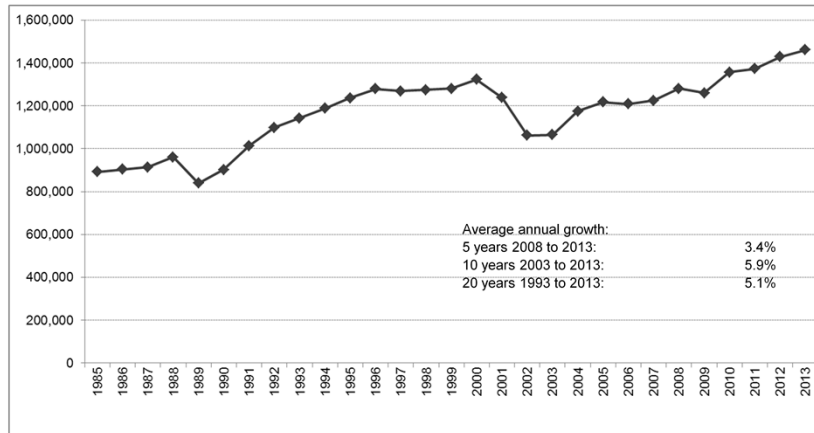
Managing community expectations – aircraft noise

Continued & timely investment in Communication, Navigation & Surveillance (CNS) infrastructure – to better service the airline customers

Aircraft Movement Increase



- From 1985 – 2013, aircraft movements increased from 892k to 1.46m
- This equates to growth of 64% or 1.78% compounding per annum

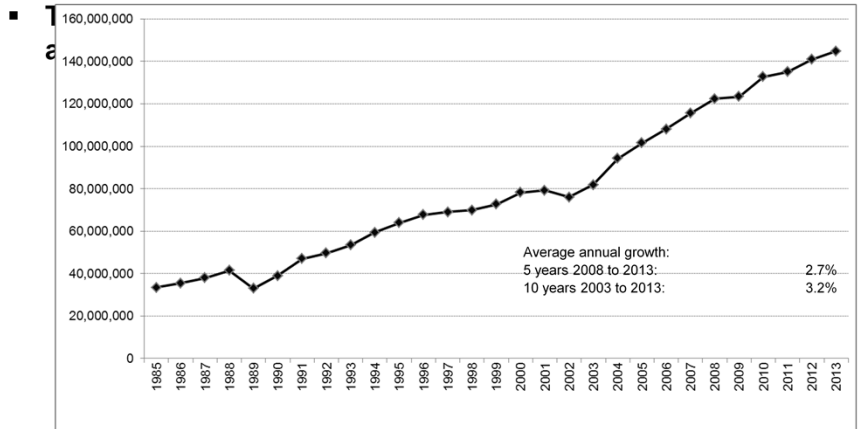


Source : Bitre

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Passenger Movement Increase

- Over same period, pax movements increased from 33.4m to 145m



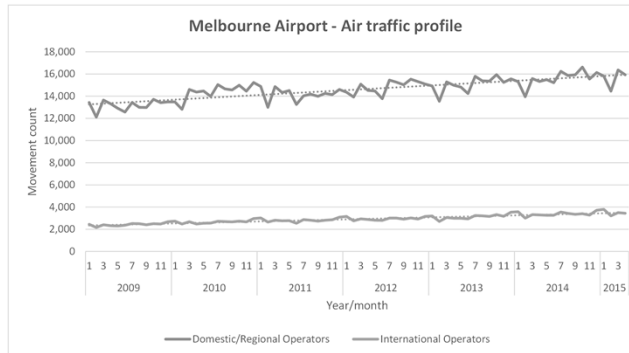
Source - Bitre

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Background – Traffic Growth in Melbourne



- Melbourne has seen traffic growth in the domestic and international sector in the past 5 years



Between Jan 2009 and Apr 2015

↑19% domestic/regional movements

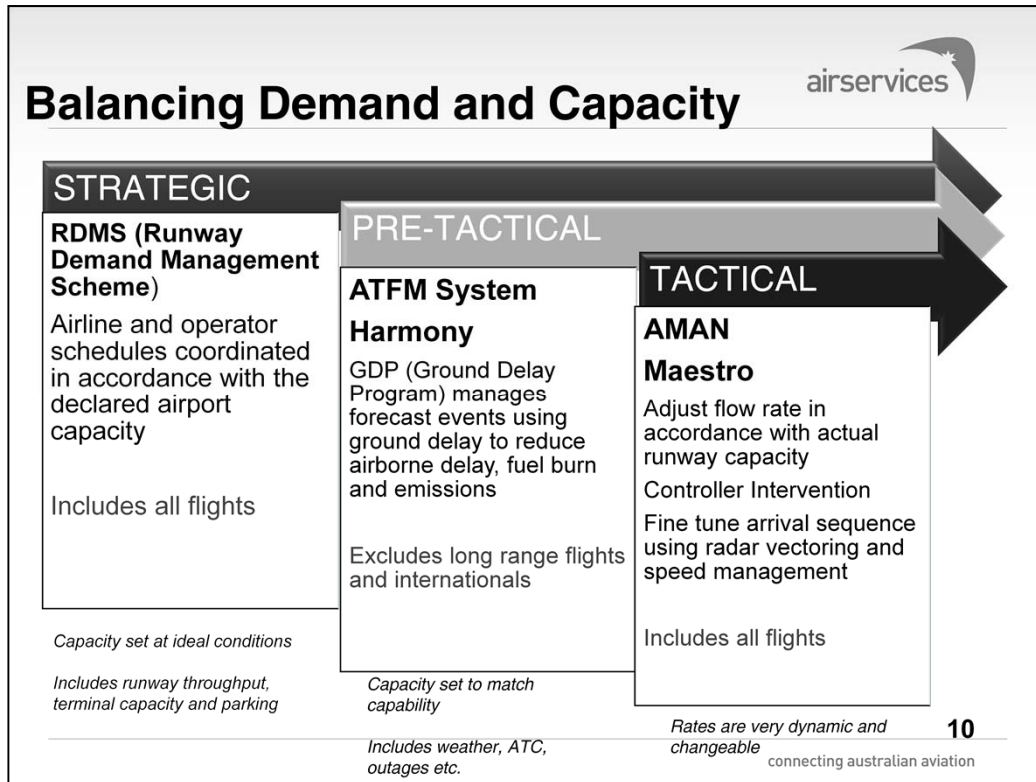
↑41% international movements

↑22% all movements

- Increased traffic growth combined with airport capacity limitations caused pressure on the network driving up airborne delay for arrivals into Melbourne

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Increased traffic growth and the limitations on airport capacity placed pressure on the network resulting in increasing airborne delay for arriving aircraft.



Air Traffic Flow Management can be viewed in three horizons... Strategic, Pre-Tactical and Tactical.

By Strategic, I mean the period up to around 6 months before the day of the flight. This is where airlines prepare their schedules.

Brisbane Airport's RDMS program is a valuable tool in the strategic horizon.

By coordinating the schedule of all airlines and carriers, runway capacity can be equitably allocated (in accordance with agreed business rules) insuring that capacity is fully utilised but not exceeded.

The pre-tactical timeframe is between a day and around 2hours ahead of the flight.

Metron Traffic Flow works in the pre-tactical timeframe and responds to changing weather and other forecast events that directly impact on runway and airspace capacity. The purpose of MTF is to convert airborne delay into ground delay.

The tactical phase commences from the time the aircraft moves "off the blocks" and ends when the aircraft pulls up at the gate.

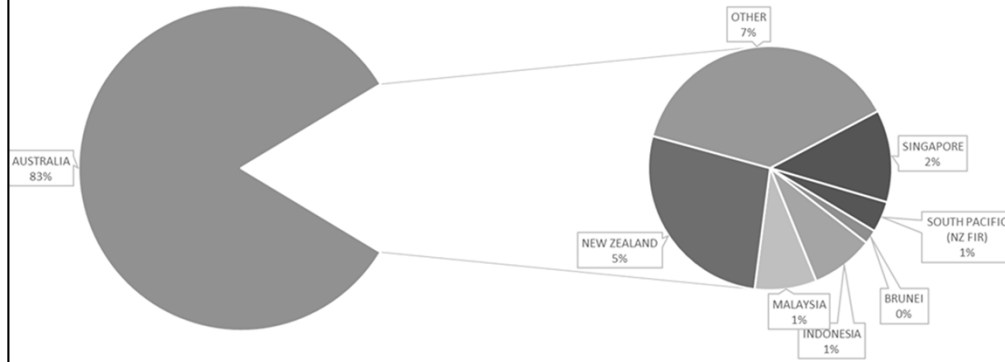
Airservices uses tools like Maestro and methods such as radar vectoring and speed control to adjust the flow of traffic to match the capacity of the runway and the

conditions occurring at the time of arrival.

Distribution of Regional Demand -Melbourne



Melbourne Arrivals - Breakdown by Region of Departure



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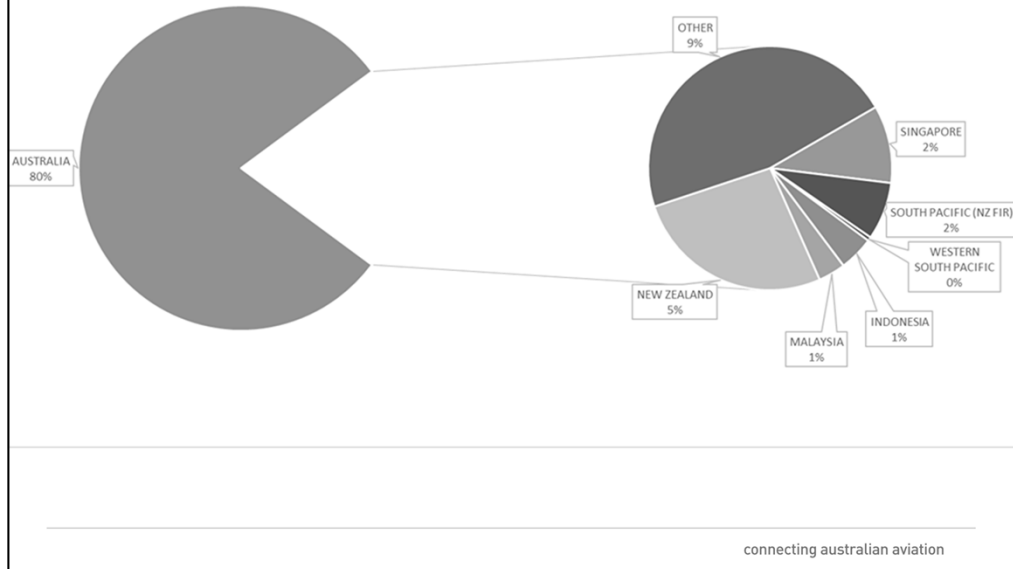
DES	COUNTRY	Number of Flights	Percentage of Flights
YBBN	AUSTRALIA	7926	87%
	INDONESIA	59	1%
	MALAYSIA	1	0%
	NEW ZEALAND	391	4%
	OTHER	332	4%
	SINGAPORE	154	2%
	SOUTH PACIFIC (NZ FIR)	107	1%
	WESTERN SOUTH PACIFIC (NAURU, PNG, SOLOMON IS.)	156	2%
YMML	AUSTRALIA	8181	83%
	BRUNEI	32	0%
	INDONESIA	142	1%
	MALAYSIA	140	1%
	NEW ZEALAND	464	5%
	OTHER	648	7%
	SINGAPORE	209	2%
	SOUTH PACIFIC (NZ FIR)	70	1%

YPPH	AUSTRALIA	4849	84%	
	BRUNEI	6	0%	
	INDONESIA	284	5%	
	MALAYSIA	71	1%	
	NEW ZEALAND	31		1%
	OTHER	288	5%	
	SINGAPORE	223	4%	
YSSY	AUSTRALIA	10914	80%	
	INDONESIA	128	1%	
	MALAYSIA	100	1%	
	NEW ZEALAND	735		5%
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			0%	

Distribution of Regional Demand -Sydney



Sydney Arrivals - Breakdown by Region of Departure



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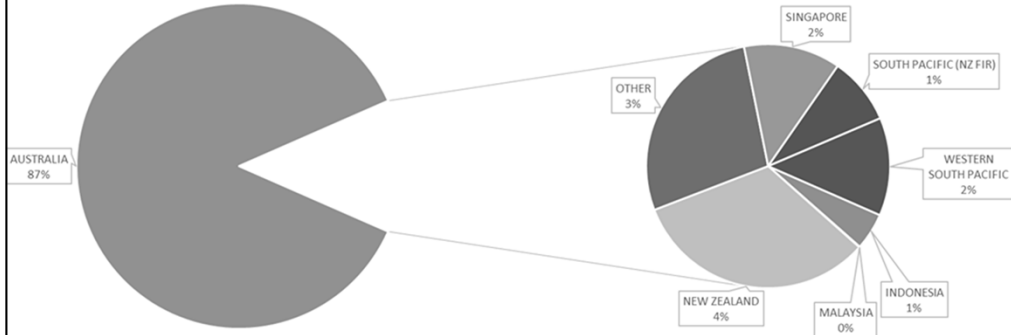
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Distribution of Regional Demand -Brisbane



Brisbane Arrivals - Breakdown by Region of Departure



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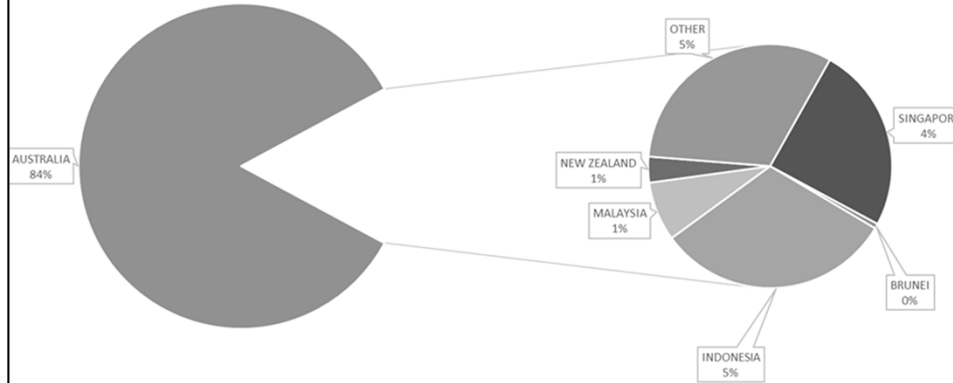
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Distribution of Regional Demand -Perth



PerthArrivals - Breakdown by Region of Departure



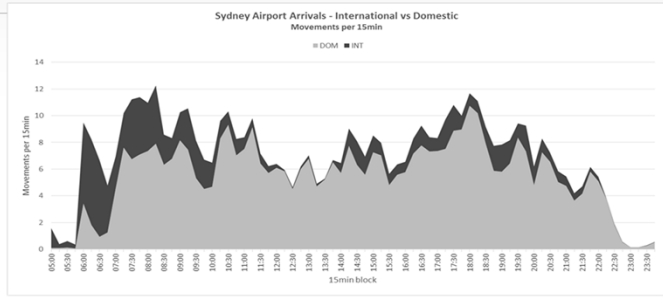
Top : Other (east coast); Indonesia; Singapore

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Distribution of Regional Demand –SY & ML



Greatest impact –
Early mornings –
Sydney and
Melbourne

In Melbourne -
Evenings



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Expanding ATFM beyond current reach

- **Pro's**
 - **Sharing ground delay with a larger pool –Reducing average ground delay per flight**
 - **Ability to flow manage most flights – Less exempt flights**
 - **Trust that the network will remain under control**
 - **Regional collaboration**
 - **Integrating and sharing of ATFM information**
 - **Regional growth can be managed**
 - **Con's**
 - **Dependent on accurate flight trajectories**
 - **Integrating and sharing of ATFM information**
 - **Regional growth impeding GDP ability to manage demand**
-

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Does Australia need to expand ATFM into the regional domain

- Yes
- Roadmap for the next 3 year includes regional ATFM between Australia and New Zealand
- Indonesia – possible Bali flights

Thank You

Terima kasih

Questions?