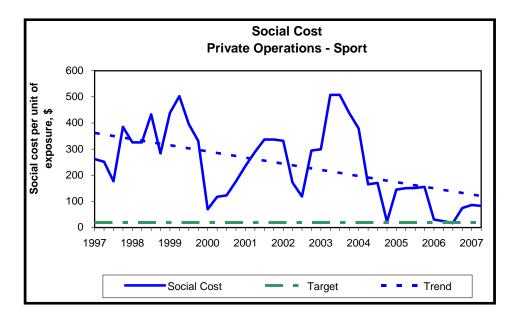


# **Aviation Safety Summary Report**

1 April to 30 June 2007



The graph above shows the social cost over exposure for the Private Operations - Sport Safety Target Group.

## Introduction

The purpose of this report is to provide readers with a quarterly snapshot of the aviation industry in terms of its size, shape, activity and safety performance versus targets. This complements the more detailed six-monthly "Aviation Industry Safety Update", which is available only on the CAA website.

This report uses calendar years; the first quarter is 1 January to 31 March.

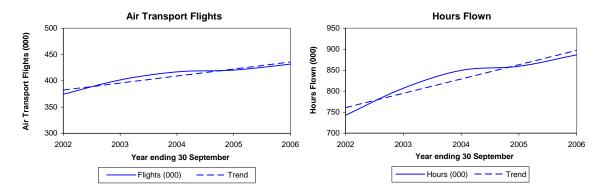
## Activity

## General

## Air Transport Flights, Total Hours

## Trends

The following graphs show the number of air transport flights and the total number of hours flown (annual data) for the five-year period 1 October 2001 to 30 September 2006 (includes the aircraft classes aeroplane, helicopter and balloon only).



Note that the scales on these graphs do not start at zero.

#### **Quarterly Comparison**

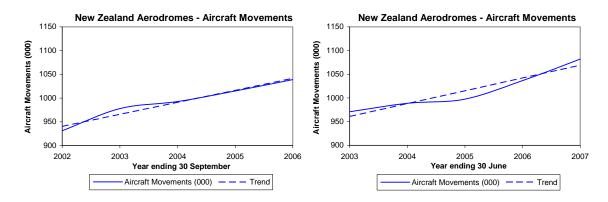
Activity	1 Jul to 30 Sep	1 Jul to 30 Sep	Change	
	2005	2006	Number	Percentage
Air Transport Flights	94,778	97,764	+ 2,986	+ 3.2
Total Hours	208,273	210,079	+ 1,806	+ 0.9

Note that these assessments include the aircraft classes aeroplane, helicopter and balloon only and exclude other aircraft classes such as hang gliders and parachutes, and foreign registered aircraft that are operated in New Zealand. These assessments are based on Aircraft Operating Statistics for periods up to the quarter ended 30 September 2006 - the most recent quarter for which these data are available.

## Aircraft Movements

#### Trends

The following graphs show the number of aircraft movements at certificated aerodromes (annual data) for the five-year periods 1 October 2001 to 30 September 2006 (the same period as for Air Transport Flights and Total Hours) and 1 July 2002 to 30 June 2007 (the most recent data).



Note that the scales on these graphs do not start at zero.

#### **Quarterly Comparison**

Activity	1 Apr to 30 Jun	1 Apr to 30 Jun	Change	
	2006	2007	Number	Percentage
Aircraft Movements	258,378	272,719	+ 14,341	+ 5.6

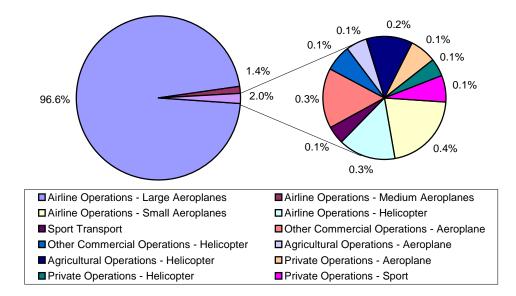
Note that this covers certificated aerodromes only. Includes Auckland, Christchurch, Dunedin, Gisborne (from December 2004), Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Memorial Airport, Kerikeri/Bay of Islands, Manapouri, Mount Cook, Timaru, Wanganui, Westport, Whangarei and Wigram.

## *Registered Aircraft* Quarterly Comparison

Aircraft Statistics Category	30 Jun	30 Jun	Change	
	2006	2007	Number	Percentage
Aeroplanes that must be operated under Part 121	123	118	- 5	- 4.1
Aeroplanes that must be operated under at least Part 125	79	80	+ 1	+ 1.3
Other Aeroplanes with Standard Airworthiness Certificate	1,407	1,439	+ 32	+ 2.3
Aeroplanes used for agricultural operations	128	127	- 1	- 0.8
Helicopters with Standard Category Airworthiness Certificate	647	672	+ 25	+ 3.9
Sport Aircraft	1,607	1,669	+ 62	+ 3.9
Total	3,991	4,105	+ 114	+ 2.9

#### Industry Size and Shape

The following graph shows the size and shape of the aviation industry as determined from Aircraft Operating Statistics in the relevant 2010 safety target group categories for the period 1 July to 30 September 2006. The number of seats for aircraft with no seats recorded on the database was estimated using (maximum take off weight (lb) of the aircraft/1000). This does not take into account aircraft that are used for freight only because the small number of aircraft in this category has a minimal effect on the overall outcome. For each safety target group the average number of seats is multiplied by the total hours flown and the appropriate load factor, to give the number of seat hours utilised by the group.



#### Percentage Sector Seat Hours

Safety Target Group	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	96.6%
Airline Operations - Medium Aeroplanes	1.4%
Airline Operations - Small Aeroplanes	0.4%
Airline Operations - Helicopter	0.3%
Sport Transport	0.1%
Other Commercial Operations - Aeroplane	0.3%
Other Commercial Operations - Helicopter	0.1%
Agricultural Operations - Aeroplane	0.1%
Agricultural Operations - Helicopter	0.2%
Agricultural Operations - Sport Aircraft	-
Private Operations - Aeroplane	0.1%
Private Operations - Helicopter	0.1%
Private Operations - Sport	0.1%

Note that the percentages may not sum exactly to 100.0% due to rounding.

## Safety Outcome Targets for 2010

## Safety Target Structure

The 2010 Safety Target Groups have all New Zealand aviation classified under three broad headings: Public Air Transport, Other Commercial Operations, and Non-Commercial Operations.

Thirteen further sub-groups enable differentiation between aeroplanes, helicopters, and sport aircraft, and also allow for different weight groups. A diagram of the grouping is shown in the Definitions section.

The following table displays the social cost for each Safety Target Group for the quarter 1 April to 30 June 2007. Social cost per fatal, serious and minor injury, and aircraft destroyed, in 2006 dollars.

Safety Target Group	Social Cost \$m
Airline Operations - Large Aeroplanes	-
Airline Operations - Medium Aeroplanes	-
Airline Operations - Small Aeroplanes	-
Airline Operations - Helicopter	-
Sport Transport	0.35
Other Commercial Operations - Aeroplane	-
Other Commercial Operations - Helicopter	-
Agricultural Operations - Aeroplane	-
Agricultural Operations - Helicopter	-
Agricultural Operations - Sport Aircraft	-
Private Operations - Aeroplane	-
Private Operations - Helicopter	0.02
Private Operations - Sport	0.20
Total	0.58

## Safety Outcome Targets for 2010

Each Safety Target Group has its own target level expressed as social cost per unit of passenger exposure, the unit being "one seat hour". For target groups that are not predominantly passenger carrying a surrogate of 500 kg of aircraft weight is used instead of passenger exposure. These outcomes represent the maximum level of social cost considered acceptable for each group.

The table below shows the recent progress towards the 2010 Safety Outcome Targets. The Safety Target Groups highlighted in yellow are groups where major safety improvements need to be achieved. Red highlighting has been used to draw attention to groups with significant recent safety failure.

Graphs displaying the Safety Outcome Targets and the progress over each quarter are shown on the following pages.

		Injuries				
Safety Target Group	Total Fatal	Total Serious	Total Minor	Previous Estimate \$	Current Estimate \$	Target \$
Airline Operations - Large Aeroplanes*	2	3	5	0.02*	0.02*	0.10
Airline Operations - Medium Aeroplanes*	2		4	1.14*	1.12*	0.10
Airline Operations - Small Aeroplanes				-	-	6.50
Airline Operations - Helicopter				-	-	6.50
Sport Transport		7		19.89	22.49	13.00
Other Commercial Operations - Aeroplane			2	0.08	0.09	6.50
Other Commercial Operations - Helicopter		1	5	38.92	37.15	6.50
Agricultural Operations - Aeroplane				-	-	14.00
Agricultural Operations - Helicopter	1			31.30	32.63	14.00
Agricultural Operations - Sport Aircraft				-	-	28.00
Private Operations - Aeroplane	2		1	91.01	91.03	10.00
Private Operations - Helicopter			6	1.14	1.61	10.00
Private Operations - Sport	5	7	6	86.04	82.72	20.00

- Activity data for Sport groups is assumed based on CAA expertise in addition to returns that are made for some aircraft in the group,
- activity data prior to October 2005 for all other groups is estimated using data gathered prior to October 2005 modulated by 1 quarter of data collected to match the 2005 2010 Safety Target Groups.

#### **Previous Estimate:**

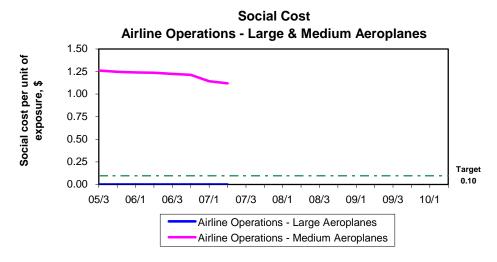
This is the estimated social cost over exposure during the averaging period ending 31 March 2007:

- for large and medium aeroplane operations 10 years of injury data\*;
- for all other operations 1 year of injury data.

## **Current Estimate:**

This is the estimated social cost over exposure during the averaging period ending 30 June 2007:

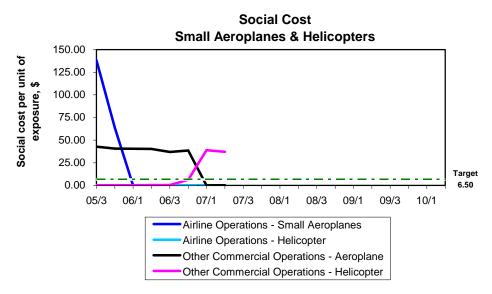
- for large and medium aeroplane operations 10 years of data\*;
- for all other operations 1 year of data;
- the 4 groups with no social cost recorded in the previous 12 months have been left blank.



The outcome for Airline Operations – Large Aeroplanes has remained well below the target level of \$0.10 per hour of exposure since the target regime was established in 2005. There is no discernable trend either up or down.

The outcome for Airline Operations – Medium Aeroplanes exceeds the target by a considerable margin and although trending down it will not be possible for the target to be achieved until after 2010 because of the relatively small exposure associated with this sector.

The results for both of these groups are derived using 10 year averages; all other groups use 12 month averages.



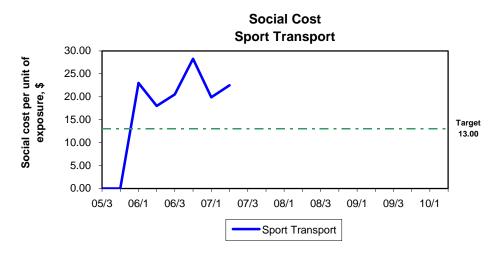
The outcome for Airline Operations – Small Aeroplanes shows a significant downward trend from the high starting point generated by 6 fatalities in late 2004 and early 2005. The safety outcome for this group has been below the target level since April 2006.

The outcome for Airline Operations – Helicopter remains level on zero as there have been no fatal or serious injuries in this group since 2003.

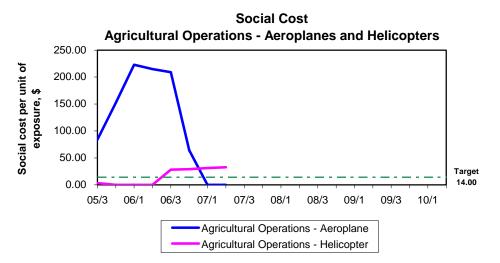
The outcome for Other Commercial Operations – Aeroplane is now well below the target of \$6.50. During the previous 4 quarters there have been 2 minor injuries in this group.

The outcome for Other Commercial Operations – Helicopter turned sharply upwards during a previous quarter and is now well above the target level. One serious and 5 minor injuries contribute to the result.

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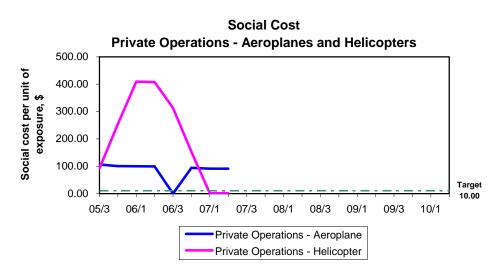


The outcome for Sport Transport peaked in the Oct – Dec 06 quarter and should trend downwards in subsequent quarters. There have been 7 serious injuries in this group in the previous 12 months. Two of the serious injuries occurred in the Apr – Jun 07 quarter.



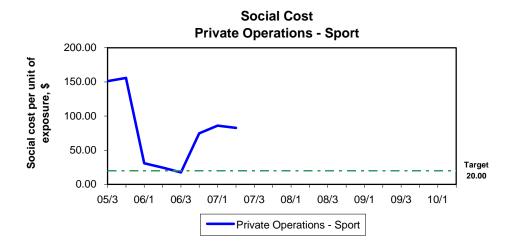
The outcome for Agricultural Operations – Aeroplanes having exceeded the target level since the target regime was established in 2005 has now reached zero. It is expected that the trend line will drop below the required target by mid 2008.

The outcome for Agricultural Operations – Helicopter turned sharply upwards during a previous quarter and is now well above the target level. One fatal injury contributes to the result.



The outcome for Private Operations – Aeroplane remained around \$100.00 for the first 4 quarters of the new regime and settled down below the required \$10.00 target by the end of the Jul – Sep 06 quarter. However, a double fatality accident towards the end of the Oct - Dec 06 quarter has driven the outcome back to the \$100.00 level again. At least one more fatality free quarter will be required before the outcome level reaches the desired outcome target.

The outcome for Private Operations – Helicopter having rapidly trended up in the initial stages and down since mid 2006 is now well below the required target level. This group has generated a significant number of injuries (5 fatal, 2 serious, and 12 minor since the second quarter of 2005), although there have only been 6 minor injuries in the 12 months to 30 June 2007. It is anticipated that the trend line for the group will go below the target line towards mid 2008.

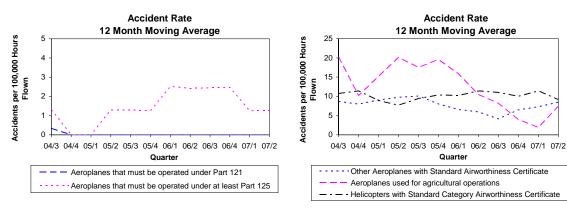


The outcome for Private Operations – Sport which had been trending down since late 2005 reversed significantly in the Oct – Dec 06 quarter. This reversal was driven by accidents in which there were 4 fatal, 3 serious and 1 minor injuries. There was a single serious injury and 2 minor injuries in the Apr-Jun 2007 quarter. Although the long term (10 year) trend for this group is downward the current steep upward trend is cause for concern.

## Accidents

#### Trends

The following graphs show the aircraft accident rates (12 month moving average) for the three-year period 1 July 2004 to 30 June 2007 (includes the aircraft classes aeroplane, helicopter and balloon only).



## **Quarterly Comparison**

#### Number of Accidents

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	0	0	0
Aeroplanes that must be operated under at least Part 125	1	1	0
Other Aeroplanes with Standard Airworthiness Certificate	1	4	+ 3
Aeroplanes used for agricultural operations	0	3	+ 3
Helicopters with Standard Category Airworthiness Certificate	5	1	- 4
Sport Aircraft	7	8	+ 1
Hang Gliders	2	1	- 1
Parachutes	0	1	+ 1
Total	16	19	+ 3

#### Severity of Accidents

Severity	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Critical	2	1	- 1
Major	7	13	+ 6
Minor	7	5	- 2

No accidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

One accident in the 'Aeroplanes that must be operated under at least Part 125' statistics category was classified as Critical in the 1 April to 30 June 2006 quarter. The aircraft entered low cloud and the Pilot in Charge descended to remain clear of cloud. During the descent the right wing struck a small tree, the Pilot in Charge was unable to arrest further descent and the aircraft belly landed in the direction of travel.

One accident in the 'Aeroplanes that must be operated under at least Part 125' statistics category was classified as Critical in the 1 April to 30 June 2007 quarter. The aircraft had an unsafe undercarriage gear indication on approach. The crew diverted, and an intentional wheels up landing was completed safely.

## Accident Causal Factors by Aircraft Statistics Category

The following graphs show the number of causal factors recorded for accidents that occurred during the 12-month period 1 April 2006 to 31 March 2007 for the various aircraft statistics categories.

Causal factors have been assigned to 23 (27%) of the 84 accidents.

Note that causes are not yet available for all accidents that occurred in the 1 April to 30 June 2007 period.



## Injuries

## Number of Fatal Accidents (and Number of Fatal Injuries)

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	0	0	0
Aeroplanes that must be operated under at least Part 125	0	0	0
Other Aeroplanes with Standard Airworthiness Certificate	0	0	0
Aeroplanes used for agricultural operations	0	0	0
Helicopters with Standard Category Airworthiness Certificate	0	0	0
Sport Aircraft	0	0	0
Hang Gliders	0	0	0
Parachutes	0	0	0
Total	0	0	0

## Number of Serious Injuries

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	0	0	0
Aeroplanes that must be operated under at least Part 125	0	0	0
Other Aeroplanes with Standard Airworthiness Certificate	0	0	0
Aeroplanes used for agricultural operations	0	0	0
Helicopters with Standard Category Airworthiness Certificate	0	0	0
Sport Aircraft	1	0	- 1
Hang Gliders	1	1	0
Parachutes	0	2	+ 2
Total	2	3	+ 1

## Number of Minor Injuries

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	0	0	0
Aeroplanes that must be operated under at least Part 125	1	0	- 1
Other Aeroplanes with Standard Airworthiness Certificate	0	0	0
Aeroplanes used for agricultural operations	0	0	0
Helicopters with Standard Category Airworthiness Certificate	3	2	- 1
Sport Aircraft	0	2	+ 2
Hang Gliders	0	0	0
Parachutes	0	0	0
Total	4	4	0

## Significant Accidents and Other Injury Accidents

#### Significant Injury Accidents

This section describes significant injury accidents that occurred during the period 1 April to 30 June 2007.

#### Helicopters with Standard Category Airworthiness Certificate

#### **Private Operations – Helicopter**

• A Robinson R22 on a private flight lost power and crashed into a hillside. The pilot and passenger suffered minor injuries.

#### **Sport Aircraft**

#### **Private Operations - Sport**

• A paraglider on a private flight crashed, seriously injuring the pilot.

#### Significant Non-Injury Accidents

This section describes significant non-injury accidents that occurred during the period 1 April to 30 June 2007.

#### Aeroplanes that must be operated under at least Part 125

#### **Airline Operations - Medium Aeroplanes**

• An aeroplane on a transport passenger A to B flight had an unsafe gear indication on approach, and made a wheels-up landing at an alternate airport.

#### Other Aeroplanes with Standard Airworthiness Certificate

#### **Airline Operations - Small Aeroplanes**

• A Piper PA32 on a transport passenger A to A flight had no result upon brake application after landing. The pilot carried out a ground loop, resulting in some damage to the aircraft.

#### **Other Injury Accidents**

This section describes other injury accidents that occurred during the period 1 April to 30 June 2007.

#### **Sport Aircraft**

#### **Sport Transport**

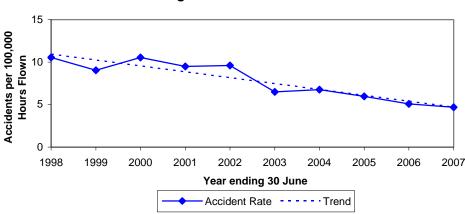
• A tandem parachute landed hard, causing serious injuries to the passenger and pilot.

#### **Private Operations - Sport**

• A microlight crashed on landing after a private flight. The pilot and passenger both suffered minor injuries.

## **Overall Accident Rate**

The following graph shows the overall accident rate per 100,000 hours flown (includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes) for the 10-year period 1 July 1997 to 30 June 2007.



NZ Registered Aircraft - Accident Rate

Note that this graph does not show a moving average.

## **Bird Incident Rates**

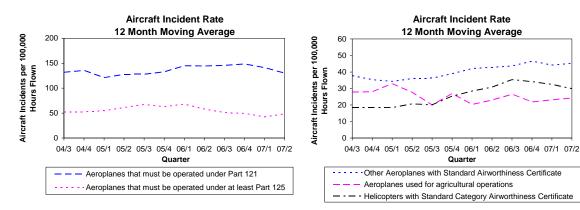
Bird hazard monitoring has been carried out against the CAA standard for the period ended 31 December 2006. Analysis shows that eight of the 18 monitored aerodromes have bird strike rates above the "trigger level" for CAA action.

One aerodrome exhibited a strike rate in the high risk category of the CAA standard (above 10.0 bird strikes per 10,000 aircraft movements). Five aerodromes exhibited a strike rate in the medium risk category (5.0 to 10.0 per 10,000 movements) and four of these aerodromes displayed a long-term upward trend. Twelve aerodromes exhibited a strike rate in the low risk category (below 5.0 per 10,000 movements) and three of these aerodromes displayed a long-term upward trend.

## Aircraft Incidents

#### Trends

The following graphs show the aircraft incident rates (12 month moving average) for the three-year period 1 July 2004 to 30 June 2007 (includes the aircraft classes aeroplane, helicopter and balloon only).



## **Quarterly Comparison**

#### Number of Aircraft Incidents

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	111	85	- 26
Aeroplanes that must be operated under at least Part 125	9	13	+ 4
Other Aeroplanes with Standard Airworthiness Certificate	28	30	+ 2
Aeroplanes used for agricultural operations	4	5	+ 1
Helicopters with Standard Category Airworthiness Certificate	15	10	- 5
Sport Aircraft	7	11	+ 4
Unknown Aircraft	36	12	- 24
Total	210	166	- 44

#### Severity of Aircraft Incidents

Severity	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Critical	0	0	0
Major	15	11	- 4
Minor	195	155	- 40

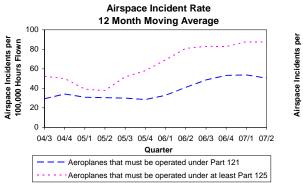
No aircraft incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

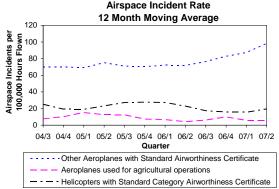
No aircraft incidents in the 'Aeroplanes that must be operated under at least Part 125' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

## **Airspace Incidents**

#### Trends

The following graphs show the airspace incident rates (12 month moving average) for the three-year period 1 July 2004 to 30 June 2007 (includes the aircraft classes aeroplane, helicopter and balloon only).





## **Quarterly Comparison**

#### Number of Airspace Incidents

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	47	40	- 7
Aeroplanes that must be operated under at least Part 125	19	18	- 1
Other Aeroplanes with Standard Airworthiness Certificate	54	81	+ 27
Aeroplanes used for agricultural operations	0	0	0
Helicopters with Standard Category Airworthiness Certificate	7	13	+ 6
Sport Aircraft	6	8	+ 2
Unknown Aircraft	74	73	- 1
Total	207	233	+ 26

#### Severity of Airspace Incidents

Severity	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Critical	1	0	- 1
Major	19	16	- 3
Minor	187	217	+ 30

No airspace incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

No airspace incidents in the 'Aeroplanes that must be operated under at least Part 125' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

## Attributability

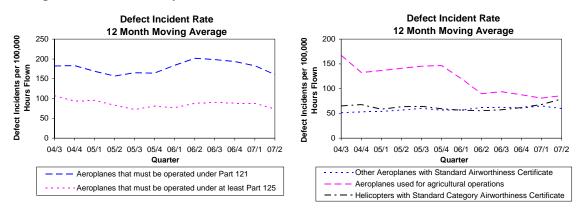
Of the 233 airspace incidents in the 1 April to 30 June 2007 quarter, 15% are Air Traffic Service (ATS) attributable, 54% are pilot attributable, 1% are ATS and pilot attributable, and 30% are unknown attributable. (Note that the percentages may not sum exactly to 100% due to rounding.)

Since July 2004 the long-term trend of the ATS attributable airspace occurrence rate is downward and the long-term trend of the pilot attributable rate is upward. However, the slope of the pilot attributable trend line is close to zero.

## **Defect Incidents**

#### Trends

The following graphs show the defect incident rates (12 month moving average) for the three-year period 1 July 2004 to 30 June 2007 (includes the aircraft classes aeroplane, helicopter and balloon only).



## **Quarterly Comparison**

#### Number of Defect Incidents

Aircraft Statistics Category	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Aeroplanes that must be operated under Part 121	176	113	- 63
Aeroplanes that must be operated under at least Part 125	23	11	- 12
Other Aeroplanes with Standard Airworthiness Certificate	55	41	- 14
Aeroplanes used for agricultural operations	10	14	+ 4
Helicopters with Standard Category Airworthiness Certificate	28	45	+ 17
Sport Aircraft	3	2	- 1
Unknown Aircraft	6	13	+ 7
Total	301	239	- 62

#### Severity of Defect Incidents

Severity	1 Apr to 30 Jun 2006	1 Apr to 30 Jun 2007	Change
Critical	0	0	0
Major	22	26	+ 4
Minor	279	213	- 66

No defect incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

No defect incidents in the 'Aeroplanes that must be operated under at least Part 125' statistics category were classified as Critical in the 1 April to 30 June 2006 or 2007 quarters.

## Rate Monitoring

Defect incident rate monitoring of individual types of medium and large air transport aircraft has been carried out against the CAA standard for the period ended 31 March 2007. Analysis shows that two of the twelve monitored aircraft types have defect rates above the "trigger level" for CAA action.

## **Quarterly Statistics**

Quarter	2004/3	2004/4	2005/1	2005/2	2005/3	2005/4
Number of Air Transport Flights <sup>1</sup>	97,568	108,865	118,483	98,333	94,778	113,306
Number of Hours Flown <sup>1</sup>	204,513	208,652	234,454	208,055	208,273	230,376
Number of Aircraft Movements <sup>2</sup>	243,338	239,658	264,617	249,893	260,951	254,085
Number of Aircraft on the Register <sup>3</sup>	3,737	3,795	3,828	3,872	3,896	3,937
Number of Licences						
Private Pilot Licence	3,687	3,649	3,655	3,683	3,683	3,580
Commercial Pilot Licence	3,437	3,470	3,484	3,524	3,540	3,530
Airline Transport Pilot Licence	1,714	1,733	1,746	1,791	1,802	1,814
Aircraft Maintenance Engineer Licence	1,960	1,983	2,003	2,019	2,055	2,075
Air Traffic Controller Licence	304	299	302	306	312	299
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	12	12	11	11	12	12
Air Operator – Medium Aeroplanes	11	11	11	11	12	13
Air Operator – Helicopters and Small Aeroplanes	147	149	150	150	152	156
Air Operator – Pacific	1	1	1	2	2	2
Number of Aircraft Accidents <sup>4</sup>						
Aeroplanes that must be operated under Part 121	0	0	0	0	0	0
Aeroplanes that must be operated under at least Part 125	0	0	0	1	0	0
Other Aeroplanes with Standard Airworthiness Certificates	6	7	10	3	7	2
Aeroplanes used for agricultural operations	2	1	3	2	1	2
Helicopters with Standard Category Airworthiness Certificates	2	5	3	3	5	7
Sport Aircraft	3	12	11	6	3	5
Unknown Aircraft	0	0	0	0	0	0
Hang Gliders	1	2	6	0	1	1
Parachutes	0	0	0	0	0	0
Number of Fatal Accidents <sup>4</sup>	0	3	4	1	2	2
Number of Fatal Injuries <sup>4</sup>	0	4	7	2	3	4
Number of Serious + Minor Injuries <sup>4</sup>	1	9	6	6	9	6
Social Cost \$ million <sup>5</sup>	0.31	13.77	22.61	6.80	9.83	13.44
Number of Incidents <sup>6</sup>	838	885	963	964	879	1,012
Number of Aviation Related Concerns	75	79	110	62	80	95

<sup>1</sup> New Zealand registered aircraft. Includes the aircraft classes aeroplane, helicopter and balloon only; excludes other aircraft classes, hang gliders and parachutes. Estimated for 2006/4, 2007/1 and 2007/2.

<sup>2</sup> Certificated aerodromes. Includes Auckland, Christchurch, Dunedin, Gisborne (from December 2004), Hamilton, Invercargill, Napier, Nelson, New Plymouth, Ohakea, Palmerston North, Queenstown, Rotorua, Taupo, Tauranga, Wellington and Woodbourne. Excludes Chatham Islands/Tuuta Memorial Airport, Kerikeri/Bay of Islands, Manapouri, Mount Cook, Timaru, Wanganui, Westport, Whangarei and Wigram.

<sup>3</sup> Includes the sport aircraft statistics category. Excludes hang gliders and parachutes.

<sup>4</sup> All accidents. All aircraft statistics categories. Includes hang gliders and parachutes.

<sup>5</sup> All aircraft statistics categories. Includes hang gliders and parachutes. Cost per fatal and serious injury, and aircraft destroyed, in June 2006 dollars.

<sup>6</sup> All incident sub-types.

Quarter	2006/1	2006/2	2006/3	2006/4	2007/1	2007/2
Number of Air Transport Flights <sup>1</sup>	117,941	102,847	97,764	116,876	119,248	108,010
Number of Hours Flown <sup>1</sup>	235,889	210,259	210,079	232,160	239,141	214,476
Number of Aircraft Movements <sup>2</sup>	263,245	258,378	263,142	255,765	290,284	272,719
Number of Aircraft on the Register <sup>3</sup>	3,991	3,991	3,995	4,033	4,075	4,105
Number of Licences						
Private Pilot Licence	3,643	3,483	3,616	3,465	3,500	3,742
Commercial Pilot Licence	3,589	3,593	3,645	3,620	3,603	3,726
Airline Transport Pilot Licence	1,803	1,789	1,810	1,818	1,804	1,893
Aircraft Maintenance Engineer Licence	2,090	2,114	2,135	2,151	2,161	2,181
Air Traffic Controller Licence	306	296	308	294	299	326
Number of Part 119 Certificated Operators						
Air Operator – Large Aeroplanes	12	11	11	11	11	11
Air Operator – Medium Aeroplanes	12	13	13	14	14	13
Air Operator – Helicopters and Small Aeroplanes	154	158	160	163	161	159
Air Operator – Pacific	2	3	3	3	2	3
Number of Aircraft Accidents <sup>4</sup>						
Aeroplanes that must be operated under Part 121	0	0	0	0	0	0
Aeroplanes that must be operated under at least Part 125	1	1	0	0	0	1
Other Aeroplanes with Standard Airworthiness Certificates	6	1	2	8	8	4
Aeroplanes used for agricultural operations	2	0	0	0	1	3
Helicopters with Standard Category Airworthiness Certificates	3	5	4	5	5	1
Sport Aircraft	12	7	4	4	8	8
Unknown Aircraft	1	0	0	2	0	0
Hang Gliders	7	2	3	4	4	1
Parachutes	2	0	1	1	4	1
Number of Fatal Accidents <sup>4</sup>	4	0	0	3	1	0
Number of Fatal Injuries <sup>4</sup>	5	0	0	6	1	0
Number of Serious + Minor Injuries <sup>4</sup>	16	6	4	15	9	7
Social Cost \$ million <sup>5</sup>	17.78	0.70	3.38	20.24	6.47	0.58
Number of Incidents <sup>6</sup>	1,078	1,155	989	1,088	1,064	1,069
Number of Aviation Related Concerns	120	86	109	84	73	69

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## Definitions

## Accident

Means an occurrence that is associated with the operation of an aircraft and takes place between the time any person boards the aircraft with the intention of flight and such time as all such persons have disembarked and the engine or any propellers or rotors come to rest, being an occurrence in which–

- (1) a person is fatally or seriously injured as a result of-
  - (i) being in the aircraft; or
  - (ii) direct contact with any part of the aircraft, including any part that has become detached from the aircraft; or
  - (iii) direct exposure to jet blast-

except when the injuries are self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

- (2) the aircraft sustains damage or structural failure that-
  - (i) adversely affects the structural strength, performance, or flight characteristics of the aircraft; and
  - (ii) would normally require major repair or replacement of the affected component-

except engine failure or damage that is limited to the engine, its cowlings, or accessories, or damage limited to propellers, wing tips, rotors, antennas, tyres, brakes, fairings, small dents, or puncture holes in the aircraft skin; or

(3) the aircraft is missing or is completely inaccessible.

## Aircraft Incident

Means any incident, not otherwise classified, associated with the operation of an aircraft.

## Aircraft Statistics Category

The following table shows the aircraft classes included in each aircraft statistics category.

Aircraft Statistics Category	Aircraft Class
Aeroplanes that must be operated under Part 121	Aeroplane
Aeroplanes that must be operated under at least Part 125	Aeroplane
Other Aeroplanes with Standard Airworthiness Certificates	Aeroplane
Aeroplanes used for agricultural operations	Aeroplane
Helicopters with Standard Category Airworthiness Certificates	Helicopter
Sport Aircraft	Aeroplane, Amateur Built Aeroplane, Amateur Built Glider, Amateur Built Helicopter, Balloon, Glider, Gyroplane, Helicopter, Microlight Class 1, Microlight Class 2, Power Glider

#### Airspace Incident

Means an incident involving deviation from, or shortcomings of, the procedures or rules for-

- (1) avoiding a collision between aircraft; or
- (2) avoiding a collision between aircraft and other obstacles when an aircraft is being provided with an Air Traffic Service.

#### **Bird Incident**

Means an incident where-

- (1) there is a collision between an aircraft and one or more birds; or
- (2) when one or more birds pass sufficiently close to an aircraft in flight to cause alarm to the pilot.

## **Defect Incident**

Means an incident that involves failure or malfunction of an aircraft or aircraft component, whether found in flight or on the ground.

#### Fatal Injury

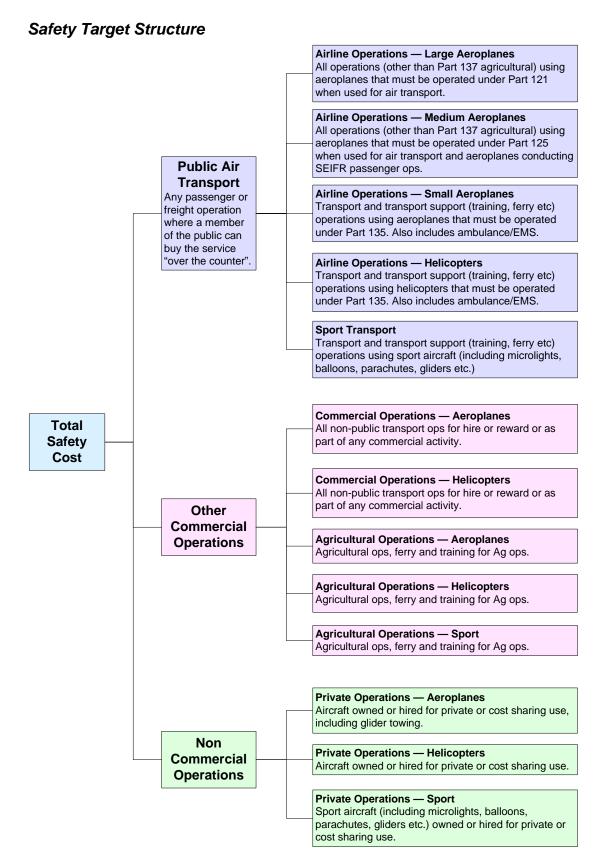
Means any injury which results in death within 30 days of the accident.

#### Incident

Means any occurrence, other than an accident, that is associated with the operation of an aircraft and affects or could affect the safety of operation.

#### Occurrence

Means an accident or incident.



#### Serious Injury

Means any injury that is sustained by a person in an accident and that-

- (1) requires hospitalisation for more than 48 hours, commencing within 7 days from the date the injury was received; or
- (2) results in a fracture of any bone, except simple fractures of fingers, toes, or nose; or
- (3) involves lacerations which cause severe haemorrhage, nerve, muscle, or tendon damage; or
- (4) involves injury to an internal organ; or
- (5) involves second or third degree burns, or any burns affecting more than 5% of the body surface; or
- (6) involves verified exposure to infectious substances or injurious radiation.

#### Severity

The following definitions apply to the severity accorded to accidents and incidents as the result of investigation of occurrences:

Severity	Definition
Critical	An occurrence or deficiency that caused, or on its own had the potential to cause, loss of life or limb;
Major	An occurrence or deficiency involving a major system that caused, or had the potential to cause, significant problems to the function or effectiveness of that system;
Minor	An isolated occurrence or deficiency not indicative of a significant system problem.