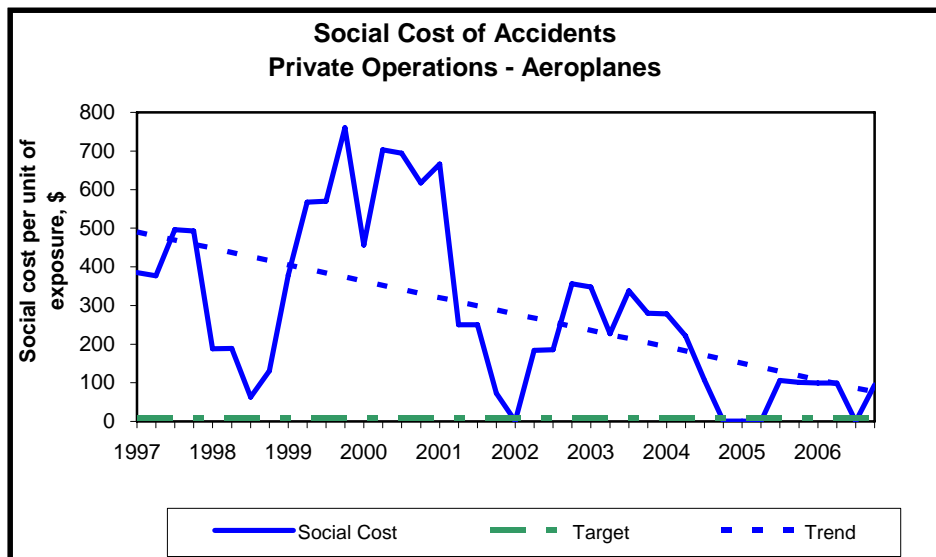




CIVIL AVIATION AUTHORITY  
OF NEW ZEALAND

# Aviation Safety Summary Report

1 October to 31 December 2006



The graph above shows the social cost of accidents for the Private Operations – Aeroplanes Safety Outcome 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.

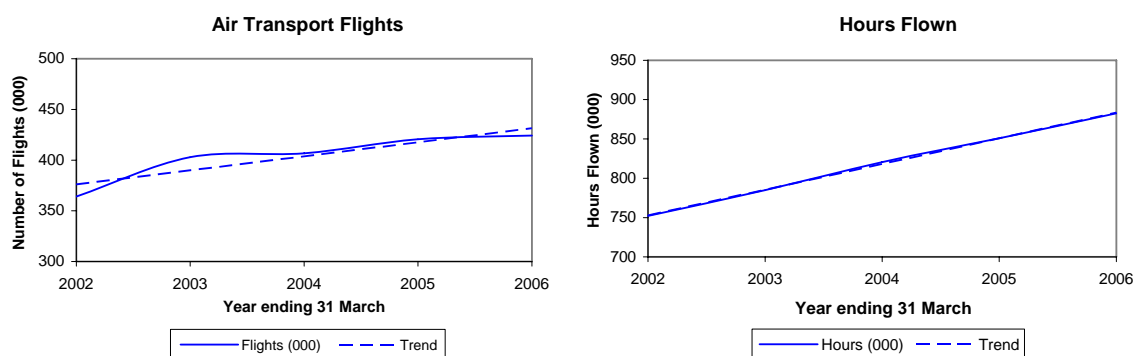
## Activity

### 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 April 2001 to 31 March 2006 (includes the aircraft classes aeroplane, helicopter and balloon only).



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

### Quarterly Comparison

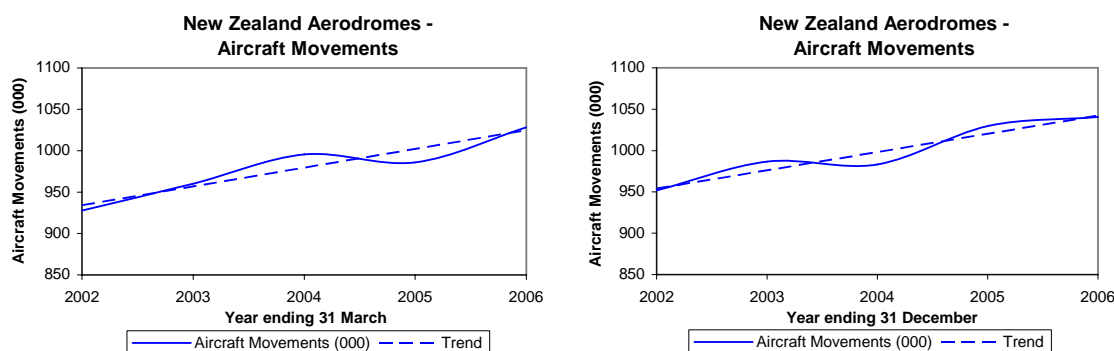
Activity	1 Jan to 31 Mar	1 Jan to 31 Mar	Change	
	2005	2006	Number	Percentage
Air Transport Flights	118,485	117,954	- 531	- 0.4
Total Hours	234,454	235,889	+ 1,435	+ 0.6

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 31 March 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 April 2001 to 31 March 2006 (the same period as for Air Transport Flights and Total Hours) and 1 January 2002 to 31 December 2006 (the most recent data).



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

### Quarterly Comparison

Activity	1 Oct to 31 Dec	1 Oct to 31 Dec	Change	
	2005	2006	Number	Percentage
Aircraft Movements	254,085	255,765	+ 1,680	+ 0.7

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/Inia William Tuuta Memorial Airport, Kerikeri/Bay of Islands, Manapouri, Mount Cook, Timaru, Wanganui, Westport, Whangarei and Wigram.

### Registered Aircraft

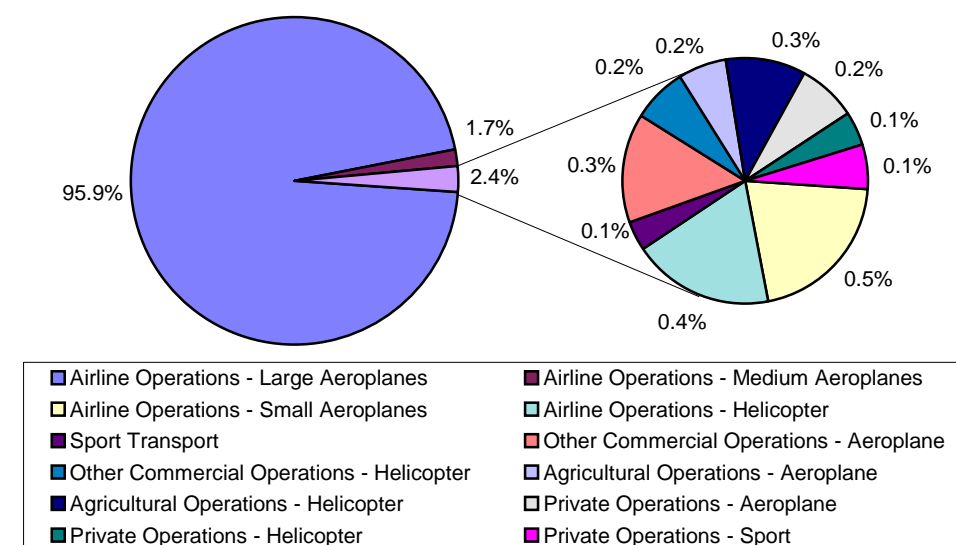
#### Quarterly Comparison

Aircraft Statistics Category	31 Dec	31 Dec	Change	
	2005	2006	Number	Percentage
Aeroplanes that must be operated under Part 121	127	117	- 10	- 7.9
Aeroplanes that must be operated under at least Part 125	113	108	- 5	- 4.4
Other Aeroplanes with Standard Airworthiness Certificate	1,367	1,392	+ 25	+ 1.8
Aeroplanes used for agricultural operations	126	125	- 1	- 0.8
Helicopters with Standard Category Airworthiness Certificate	635	653	+ 18	+ 2.8
Sport Aircraft	1,569	1,638	+ 69	+ 4.4
<b>Total</b>	<b>3,937</b>	<b>4,033</b>	<b>+ 96</b>	<b>+ 2.4</b>

### 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 January to 31 March 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 Outcome Target Group	Percentage Sector Seat Hours
Airline Operations - Large Aeroplanes	95.9%
Airline Operations - Medium Aeroplanes	1.7%
Airline Operations - Small Aeroplanes	0.5%
Airline Operations - Helicopter	0.4%
Sport Transport	0.1%
Other Commercial Operations - Aeroplane	0.3%
Other Commercial Operations - Helicopter	0.2%
Agricultural Operations - Aeroplane	0.2%
Agricultural Operations - Helicopter	0.3%
Agricultural Operations - Sport Aircraft	-
Private Operations - Aeroplane	0.2%
Private Operations - Helicopter	0.1%
Private Operations - Sport	0.1%

## 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 October to 31 December 2006. Social cost per fatal, serious and minor injury, and aircraft destroyed, in 2006 dollars.

Safety Outcome Target Group	Social Cost \$m
Airline Operations - Large Aeroplanes	-
Airline Operations - Medium Aeroplanes	-
Airline Operations - Small Aeroplanes	-
Airline Operations - Helicopter	-
Sport Transport	0.92
Other Commercial Operations - Aeroplane	0.01
Other Commercial Operations - Helicopter	0.35
Agricultural Operations - Aeroplane	-
Agricultural Operations - Helicopter	-
Agricultural Operations - Sport Aircraft	-
Private Operations - Aeroplane	6.11
Private Operations - Helicopter	0.02
Private Operations - Sport	12.82
<b>Total</b>	<b>20.24</b>

## Safety Outcome Targets for 2010

Each “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 new Safety Outcome Targets for the period ending 31 December 2006. The 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 new Safety Outcome Targets and the progress over each quarter are shown on the following pages.

Safety Outcome Target Group	Total Fatal	Injuries		Previous Estimate \$	Current Estimate \$	Target \$
		Total Serious	Total Minor			
Airline Operations - Large Aeroplanes*	2	3	3	0.02*	0.02*	0.10
Airline Operations - Medium Aeroplanes*	2	1	9	1.22*	1.21*	0.10
Airline Operations - Small Aeroplanes				-	-	6.50
Airline Operations - Helicopter				-	-	6.50
Sport Transport		8	1	40.45	64.53	13.00
Other Commercial Operations - Aeroplane	2		3	36.88	38.59	6.50
Other Commercial Operations - Helicopter		1	6	0.41	6.24	6.50
Agricultural Operations - Aeroplane	1			209.11	64.18	14.00
Agricultural Operations - Helicopter			1	0.11	0.12	14.00
Agricultural Operations - Sport Aircraft				-	-	28.00
Private Operations - Aeroplane	2		1	-	94.23	10.00
Private Operations - Helicopter	2		5	312.76	152.76	10.00
Private Operations - Sport	4	8	7	49.30	257.58	20.00

- Activity data for Sport groups is assumed based on CAA expertise,
- activity data prior to October 2005 for all other groups is estimated using data gathered prior to October 2005 modulated by one quarter of data collected to match the 2005 - 2010 Safety Outcome Targets.

### Previous Estimate:

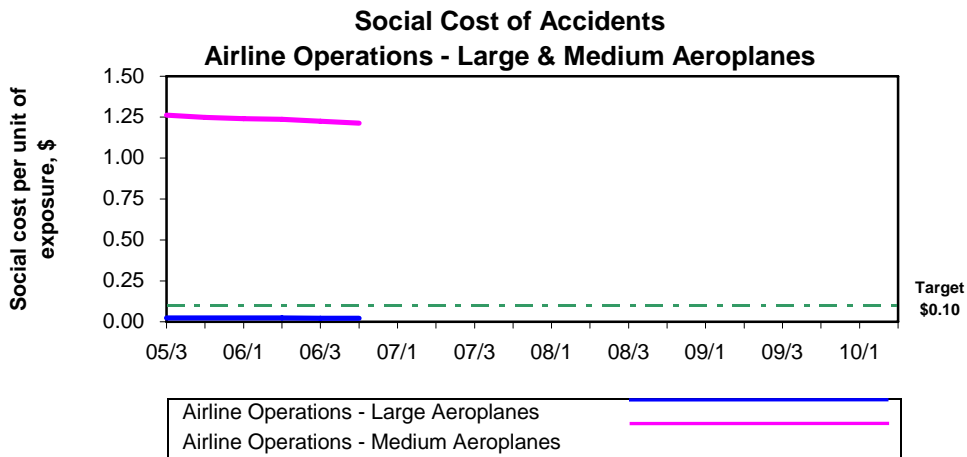
This is the estimated social cost of injuries over exposure during the averaging period ending 30 September 2006:

- 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 of injuries over exposure during the averaging period ending 31 December 2006:

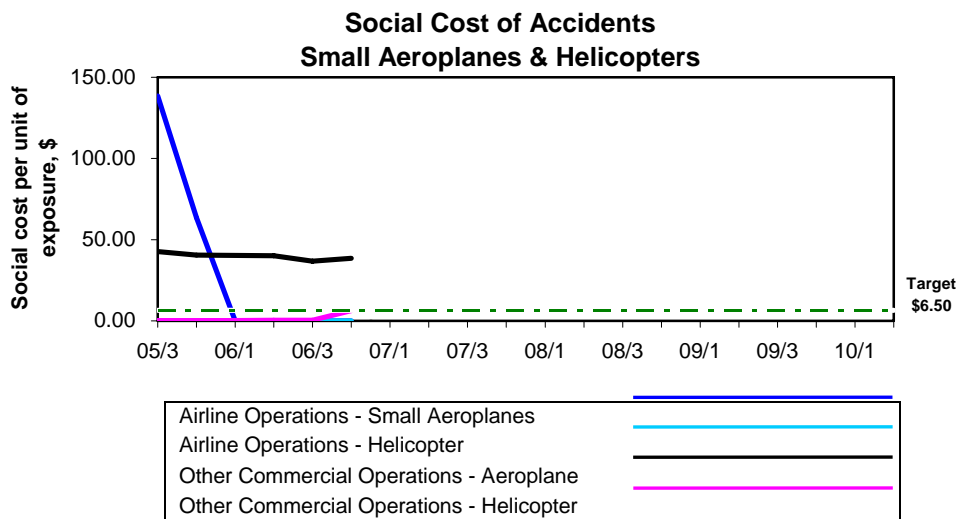
- for large and medium aeroplane operations 10 years of injury data\*;
- for all other operations 1 year of injury data;
- the 3 groups with no injuries recorded in the previous 12 months have been left blank.



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, because of the relatively small exposure associated with this sector, it will not be possible for the target to be achieved until after 2010.

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



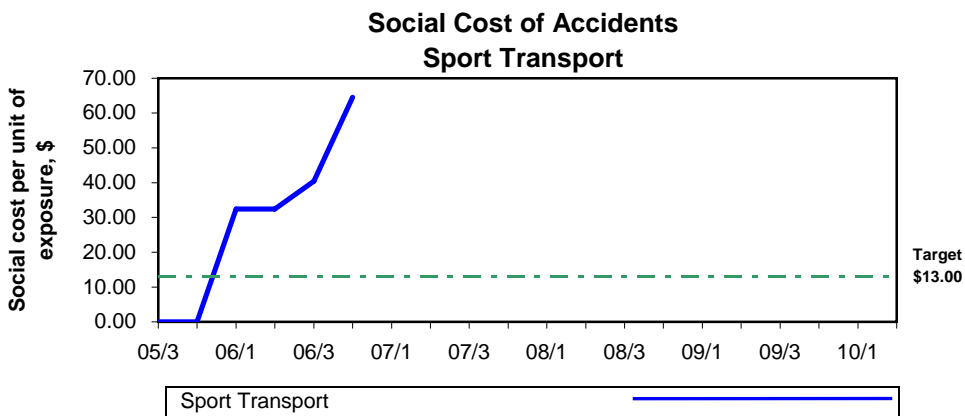
The outcome for Airline Operations – Small Aeroplanes shows a significant downward trend from the high starting point generated by 6 fatalities in late 2004 and early 2005. The safety outcome for this group has been below the target level since April 2006.

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

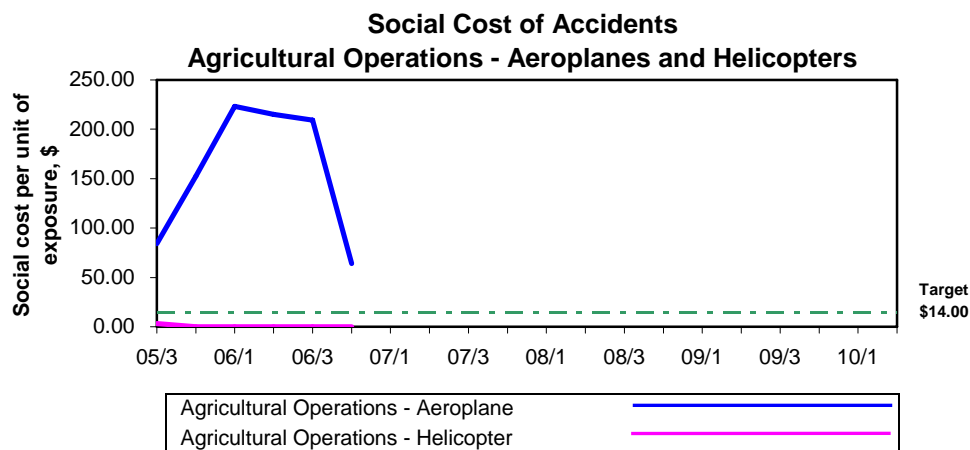
The outcome for Other Commercial Operations – Aeroplane is well above the target of \$6.50 and is trending down slightly. During the quarter there was one minor injury accident in this group.

The outcome for Other Commercial Operations – Helicopter turned sharply upwards during the quarter and is now approaching the target level from below. This change is the result of a single accident in which 1 person received serious injuries and 4 persons received minor injuries.



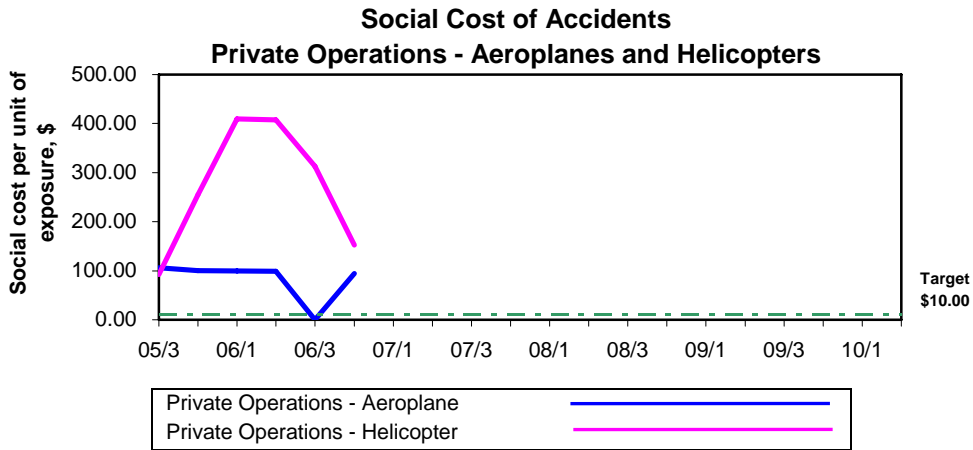


The outcome for Sport Transport is rapidly trending up. There have been 8 serious injuries and 1 minor injury in this group since the establishment of the 2010 Safety Outcome Targets. Three of the serious injuries occurred in the Oct – Dec 06 quarter.



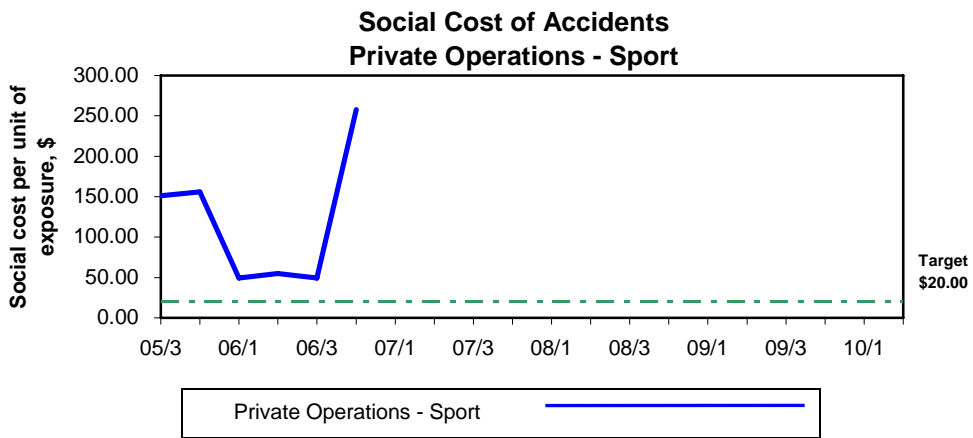
The outcome for Agricultural Operations – Aeroplanes has exceeded the target level since the target regime was established in 2005. However, a strong downward trend in 2006 has resulted in an outcome close to the target of \$14.00 per seat hour. The required outcome target will be reached by April 2007 as long as there are no injury accidents in the Jan – Mar 07 quarter.

The outcome for Agricultural Operations – Helicopter has remained near zero as there have been no fatal or serious injuries affecting this group since 2004.



The outcome for Private Operations – Aeroplane remained around \$100.00 for the first 3 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 3 fatality free quarters 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 is now firmly established on the way down. This group has generated a significant number of injuries (5 fatal, 2 serious, and 10 minor) since the second quarter of 2005. However, provided there are no fatal or serious injuries before April 2007 the required target level can be achieved around that time.



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, 2 serious and 1 minor injuries. This outcome is close to the long term (10 year) downward trend for this group.

## ***Injuries***

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

<b>Aircraft Statistics Category</b>	<b>1 Oct to 31 Dec 2005</b>	<b>1 Oct to 31 Dec 2006</b>	<b>Change</b>
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	1 (2)	+ 1 (+ 2)
Aeroplanes used for agricultural operations	1 (2)	0	- 1 (- 2)
Helicopters with Standard Category Airworthiness Certificate	1 (2)	0	- 1 (- 2)
Sport Aircraft	0	1 (2)	+ 1 (+ 2)
Unknown	0	1 (2)	+ 1 (+ 2)
Hang Gliders	0	0	0
Parachutes	0	0	0
<b>Total</b>	<b>2 (4)</b>	<b>3 (6)</b>	<b>+ 1 (+ 2)</b>

### ***Number of Serious Injuries***

<b>Aircraft Statistics Category</b>	<b>1 Oct to 31 Dec 2005</b>	<b>1 Oct to 31 Dec 2006</b>	<b>Change</b>
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	1	1	0
Sport Aircraft	3	0	- 3
Unknown	0	0	0
Hang Gliders	0	4	+ 4
Parachutes	0	1	+ 1
<b>Total</b>	<b>4</b>	<b>6</b>	<b>+ 2</b>

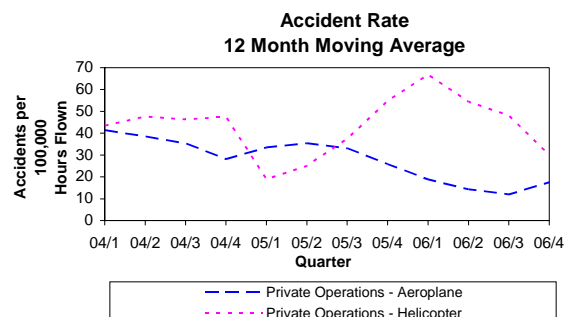
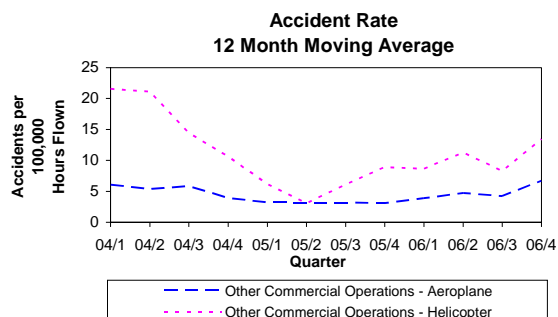
### ***Number of Minor Injuries***

<b>Aircraft Statistics Category</b>	<b>1 Oct to 31 Dec 2005</b>	<b>1 Oct to 31 Dec 2006</b>	<b>Change</b>
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	2	+ 2
Aeroplanes used for agricultural operations	0	0	0
Helicopters with Standard Category Airworthiness Certificate	2	4	+ 2
Sport Aircraft	0	1	+ 1
Unknown	0	0	0
Hang Gliders	0	0	0
Parachutes	0	0	0
<b>Total</b>	<b>2</b>	<b>7</b>	<b>+ 5</b>

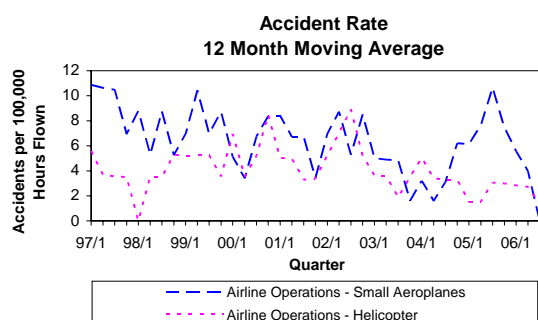
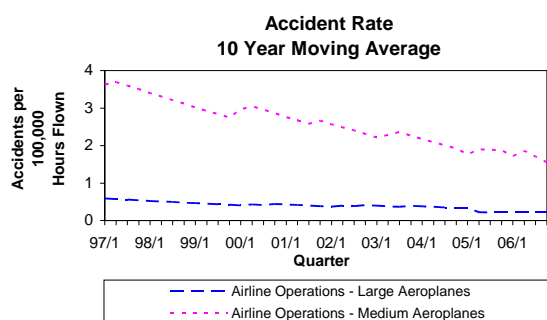
## Accidents

### Trends

The following graphs show the aircraft accident rates for the three-year period 1 January 2004 to 31 December 2006 for the Other Commercial Operations and Non-Commercial Operations Safety Target Groups.



The following graphs show the aircraft accident rates for the period 1 January 1997 to 31 December 2006 for the Public Transport Operations Aeroplane and Helicopter Safety Target Groups.



### Quarterly Comparison

#### Number of Accidents

Aircraft Statistics Category	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Aeroplanes that must be operated under Part 121	0	0	0
Aeroplanes that must be operated under at least Part 125	0	1	+ 1
Other Aeroplanes with Standard Airworthiness Certificate	2	7	+ 5
Aeroplanes used for agricultural operations	2	0	- 2
Helicopters with Standard Category Airworthiness Certificate	7	4	- 3
Sport Aircraft	5	4	- 1
Unknown	0	2	+ 2
Hang Gliders	1	4	+ 3
Parachutes	0	1	+ 1
<b>Total</b>	<b>17</b>	<b>23</b>	<b>+ 6</b>

The accidents in the 'Unknown Aircraft' statistics category in the 1 October to 31 December 2006 quarter involved an unregistered New Zealand 'Sport Aircraft' (gyrocopter) on a private flight and a foreign registered 'Sport Aircraft' (motorised glider) on a cross country competition flight.

### Severity of Accidents

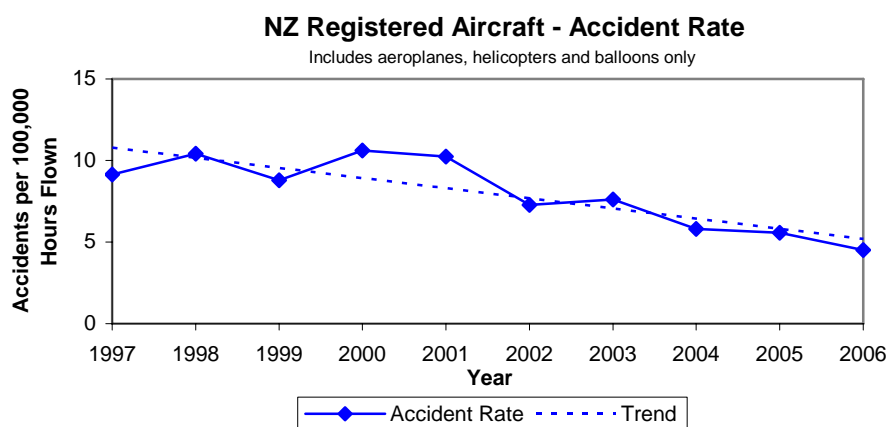
Severity	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Critical	3	9	+ 6
Major	7	12	+ 5
Minor	7	2	- 5

No accidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 quarters.

No accidents in the 'Aeroplanes that must be operated under at least Part 125' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 quarters.

### 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 years 1997 to 2006.



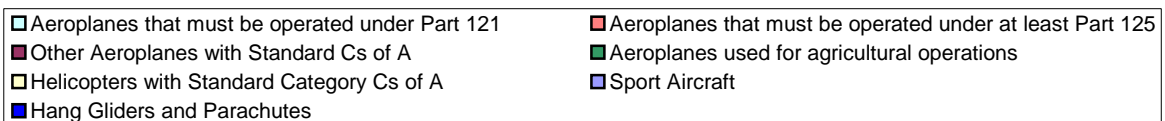
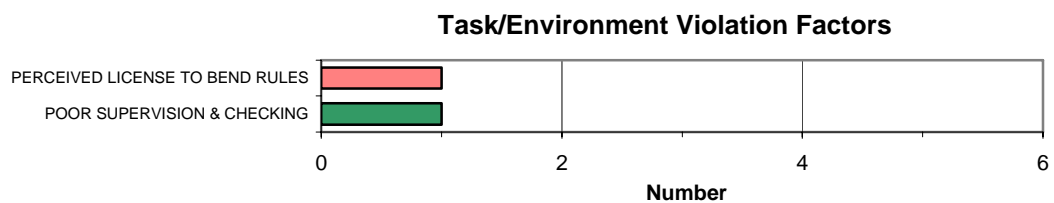
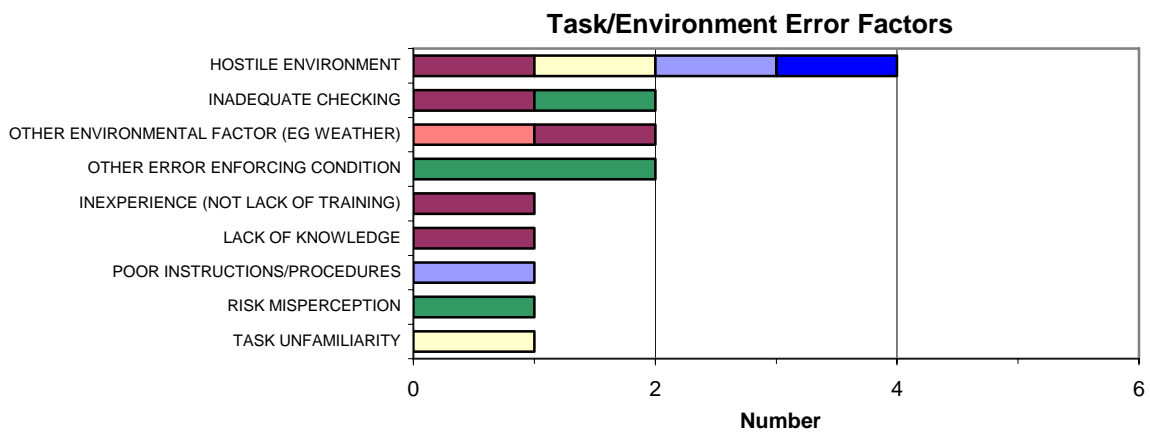
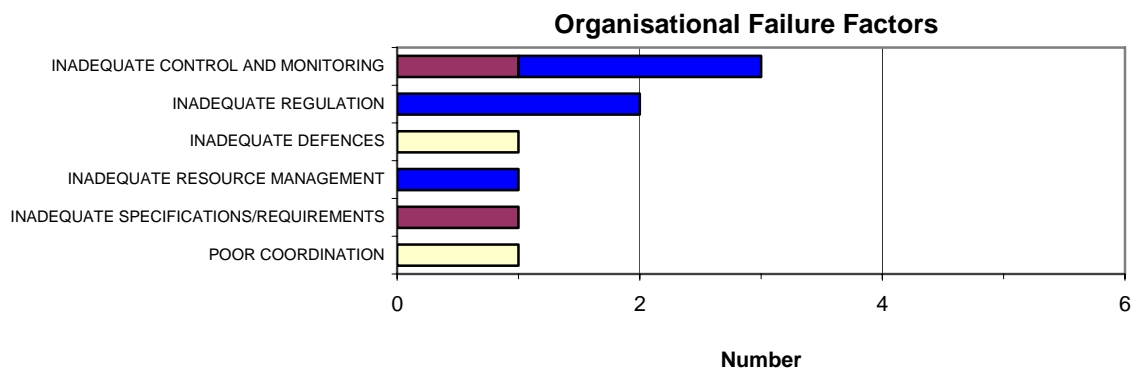
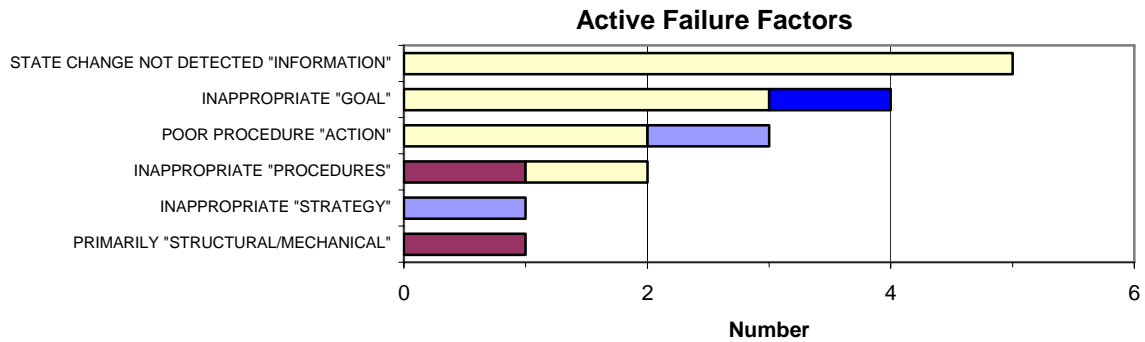
Note that this graph does not show a moving average.

### 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 October 2005 to 30 September 2006 for the various aircraft statistics categories.

Causal factors have been assigned to 29 (35%) of the 82 accidents.

Note that causes are not yet available for all accidents that occurred in the 1 October to 31 December 2006 period.



## ***Significant Accidents and Other Injury Accidents***

### ***Significant Injury Accidents***

This section describes significant injury accidents that occurred during the period 1 October to 31 December 2006.

#### **Other Aeroplanes with Standard Airworthiness Certificate**

##### **Private Operations - Aeroplane**

- An aircraft on a private flight was seen to spiral into the ground and burst into flames. The passenger and pilot were both killed.

#### **Helicopters with Standard Category Airworthiness Certificate**

##### **Other Commercial Operations - Helicopter**

- A helicopter on a police flight struck a wire and landed safely. The pilot received serious injuries.

#### **Sport Aircraft**

##### **Sport Transport**

- A tandem paraglider on a private flight snagged a tree branch while flying too close to a cliff. The pilot and passenger both suffered serious injuries.

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

- A motorised glider on a private flight crashed killing both occupants. (Note that in the other accident sections of this report this accident is shown in the 'Unknown Aircraft' statistics category because it involved a foreign registered aircraft.)
- An amateur built aeroplane on a private flight nose-dived into the sea about 20 m offshore. The pilot and passenger were killed.
- A paraglider on a solo training flight crashed on landing. The pilot suffered serious injuries.
- A parachute failed to open properly. The parachutist received serious injuries.

### ***Significant Non-Injury Accidents***

This section describes significant non-injury accidents that occurred during the period 1 October to 31 December 2006.

#### **Sport Aircraft**

##### **Sport - Transport**

- A hang glider on a tandem fare-paying flight crashed on landing.

### ***Other Injury Accidents***

This section describes other injury accidents that occurred during the period 1 October to 31 December 2006.

#### **Other Aeroplanes with Standard Airworthiness Certificate**

##### **Other Commercial Operations - Aeroplane**

- An aircraft carrying parachutists lost engine power at 2,500 feet, and made a forced landing in a vineyard. The pilot suffered minor injuries.
- An aircraft on a solo training flight crashed on landing. The pilot suffered minor injuries.

#### **Helicopters with Standard Category Airworthiness Certificate**

##### **Other Commercial Operations - Helicopter**

- A helicopter on an 'other aerial work' operation drifted sideways on lift off and crashed. The pilot and three passengers suffered minor injuries.

#### **Sport Aircraft**

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

- A hang glider crashed during a private flight, inflicting serious injuries on the pilot.
- A class 2 microlight on a private flight suffered substantial damage during a precautionary landing after vibration was felt. The pilot suffered minor injuries.

### **Bird Incident Rates**

Bird hazard monitoring has been carried out against the CAA standard for the period ended 30 June 2006. Analysis shows that 11 of the 18 monitored aerodromes have bird strike rates above the "trigger level" for CAA action.

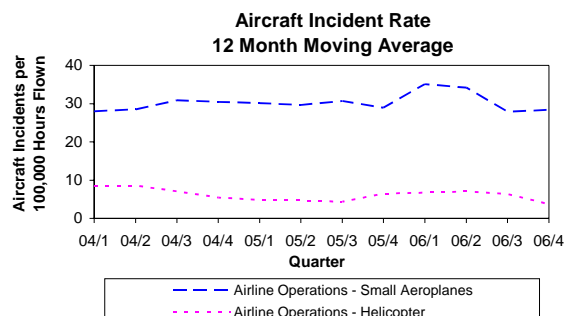
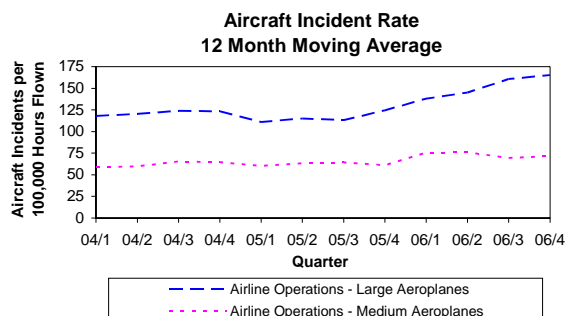
Two aerodromes exhibited a strike rate in the high risk category of the CAA standard (above 10.0 bird strikes per 10,000 aircraft movements). Five aerodromes exhibited a strike rate in the medium risk category (5.0 to 10.0 per 10,000 movements) and three of these aerodromes displayed a long-term upward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



## Aircraft Incidents

### Trends

The following graphs show the aircraft incident rates for the three-year period 1 January 2004 to 31 December 2006 for the Public Transport Operations Aeroplane and Helicopter Safety Target Groups.



### Quarterly Comparison

#### Number of Aircraft Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Aeroplanes that must be operated under Part 121	118	137	+ 19
Aeroplanes that must be operated under at least Part 125	8	5	- 3
Other Aeroplanes with Standard Airworthiness Certificate	28	30	+ 2
Aeroplanes used for agricultural operations	4	3	- 1
Helicopters with Standard Category Airworthiness Certificate	18	13	- 5
Sport Aircraft	6	4	- 2
Unknown Aircraft	17	15	- 2
<b>Total</b>	<b>199</b>	<b>207</b>	<b>+ 8</b>

#### Severity of Aircraft Incidents

Severity	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Critical	0	0	0
Major	13	17	+ 4
Minor	186	190	+ 4

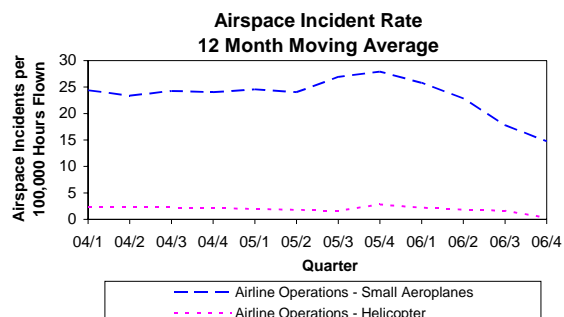
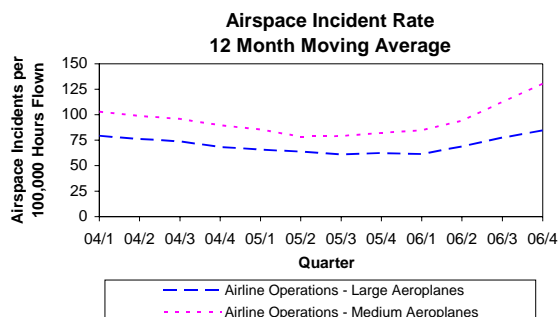
No aircraft incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 quarters.

No aircraft incidents in the 'Aeroplanes that must be operated under at least Part 125' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 quarters.

## Airspace Incidents

### Trends

The following graphs show the airspace incident rates for the three-year period 1 January 2004 to 31 December 2006 for the Public Transport Operations Aeroplane and Helicopter Safety Target Groups.



### Quarterly Comparison

#### Number of Airspace Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Aeroplanes that must be operated under Part 121	28	47	+ 19
Aeroplanes that must be operated under at least Part 125	14	14	0
Other Aeroplanes with Standard Airworthiness Certificate	50	65	+ 15
Aeroplanes used for agricultural operations	0	2	+ 2
Helicopters with Standard Category Airworthiness Certificate	11	8	- 3
Sport Aircraft	5	5	0
Unknown Aircraft	88	106	+ 18
<b>Total</b>	<b>196</b>	<b>247</b>	<b>+ 51</b>

#### Severity of Airspace Incidents

Severity	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Critical	0	1	+ 1
Major	15	13	- 2
Minor	181	233	+ 52

No airspace incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 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 October to 31 December 2005 or 2006 quarters.

### Attributability

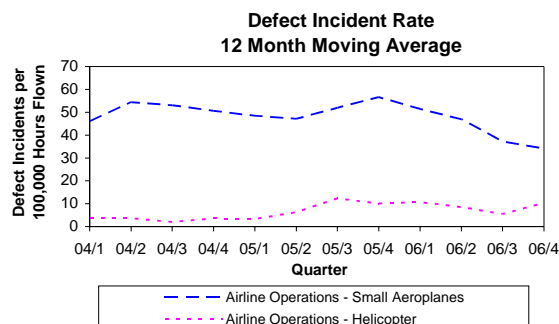
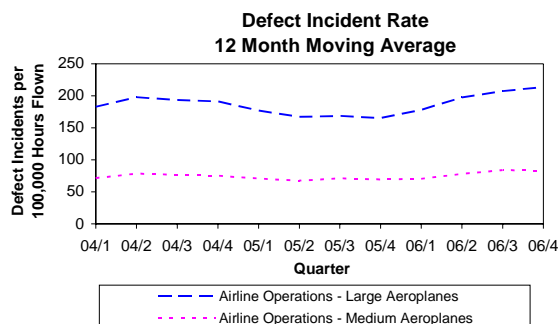
Of the 247 airspace incidents in the 1 October to 31 December 2006 quarter, 21% are Air Traffic Service (ATS) attributable, 57% are pilot attributable, 1% are ATS and pilot attributable, and 21% are unknown attributable.

Since January 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 for the three-year period 1 January 2004 to 31 December 2006 for the Public Transport Operations Aeroplane and Helicopter Safety Target Groups.



### Quarterly Comparison

#### Number of Defect Incidents

Aircraft Statistics Category	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Aeroplanes that must be operated under Part 121	137	125	- 12
Aeroplanes that must be operated under at least Part 125	24	16	- 8
Other Aeroplanes with Standard Airworthiness Certificate	28	27	- 1
Aeroplanes used for agricultural operations	9	7	- 2
Helicopters with Standard Category Airworthiness Certificate	25	31	+ 6
Sport Aircraft	4	9	+ 5
Unknown Aircraft	4	10	+ 6
<b>Total</b>	<b>231</b>	<b>225</b>	<b>- 6</b>

#### Severity of Defect Incidents

Severity	1 Oct to 31 Dec 2005	1 Oct to 31 Dec 2006	Change
Critical	0	0	0
Major	10	22	+ 12
Minor	221	203	- 18

No defect incidents in the 'Aeroplanes that must be operated under Part 121' statistics category were classified as Critical in the 1 October to 31 December 2005 or 2006 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 October to 31 December 2005 or 2006 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 30 September 2006. Analysis shows that none of the eleven monitored aircraft types have defect rates above the "trigger level" for CAA action.

## Quarterly Statistics

Quarter	2004/1	2004/2	2004/3	2004/4	2005/1	2005/2
<b>Number of Air Transport Flights<sup>1</sup></b>	114,869	95,714	97,567	108,868	118,485	98,334
<b>Number of Hours Flown<sup>1</sup></b>	228,439	203,332	204,513	208,652	234,454	208,055
<b>Number of Aircraft Movements<sup>2</sup></b>	261,860	238,223	243,338	239,658	264,617	249,893
<b>Number of Aircraft on the Register<sup>3</sup></b>	3,675	3,703	3,737	3,795	3,828	3,872
<b>Number of Licences</b>						
Private Pilot Licence	3,710	3,711	3,687	3,649	3,655	3,683
Commercial Pilot Licence	3,349	3,381	3,437	3,470	3,484	3,524
Airline Transport Pilot Licence	1,661	1,695	1,714	1,733	1,746	1,791
Aircraft Maintenance Engineer Licence	1,898	1,927	1,960	1,983	2,003	2,019
Air Traffic Controller Licence	304	314	304	299	302	306
<b>Number of Part 119 Certificated Operators</b>						
Air Operator – Large Aeroplanes	13	12	12	12	11	11
Air Operator – Medium Aeroplanes	12	11	11	11	11	11
Air Operator – Helicopters and Small Aeroplanes	146	146	147	149	150	150
Air Operator – Pacific	2	1	1	1	1	2
<b>Number of Aircraft Accidents<sup>4</sup></b>						
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	1	0	0	1
Other Aeroplanes with Standard Airworthiness Certificates	7	1	5	7	10	3
Aeroplanes used for agricultural operations	1	0	2	1	3	2
Helicopters with Standard Category Airworthiness Certificates	7	5	2	5	3	3
Sport Aircraft	8	3	3	12	11	6
Unknown Aircraft	2	0	0	0	0	0
Hang Gliders	4	0	1	2	6	0
Parachutes	1	0	0	0	0	0
<b>Number of Fatal Accidents<sup>4</sup></b>	3	2	0	3	4	1
<b>Number of Fatalities<sup>4</sup></b>	6	2	0	4	7	2
<b>Number of Serious + Minor Injuries<sup>4</sup></b>	2	2	1	9	6	6
<b>Injury Social Cost \$ million<sup>5</sup></b>	18.61	6.42	0.31	13.77	22.61	6.80
<b>Number of Incidents<sup>6</sup></b>	1,022	962	838	885	963	964
<b>Number of Aviation Related Concerns</b>	85	62	75	79	110	62

<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 2006/2, 2006/3 and 2006/4.

<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/Inia William 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 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	2005/3	2005/4	2006/1	2006/2	2006/3	2006/4
<b>Number of Air Transport Flights<sup>1</sup></b>	94,778	113,321	117,954	99,952	97,287	115,782
<b>Number of Hours Flown<sup>1</sup></b>	208,273	230,376	235,889	209,328	209,547	231,786
<b>Number of Aircraft Movements<sup>2</sup></b>	260,951	254,085	263,245	258,378	263,142	255,765
<b>Number of Aircraft on the Register<sup>3</sup></b>	3,896	3,937	3,991	3,991	3,995	4,033
<b>Number of Licences</b>						
Private Pilot Licence	3,683	3,580	3,643	3,483	3,616	3,465
Commercial Pilot Licence	3,540	3,530	3,589	3,593	3,645	3,620
Airline Transport Pilot Licence	1,802	1,814	1,803	1,789	1,810	1,818
Aircraft Maintenance Engineer Licence	2,055	2,075	2,090	2,114	2,135	2,151
Air Traffic Controller Licence	312	299	306	296	308	294
<b>Number of Part 119 Certificated Operators</b>						
Air Operator – Large Aeroplanes	12	12	12	11	11	11
Air Operator – Medium Aeroplanes	12	13	12	13	13	14
Air Operator – Helicopters and Small Aeroplanes	152	156	154	158	160	163
Air Operator – Pacific	2	2	2	3	3	3
<b>Number of Aircraft Accidents<sup>4</sup></b>						
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	1	1	0	1
Other Aeroplanes with Standard Airworthiness Certificates	7	2	6	1	2	7
Aeroplanes used for agricultural operations	1	2	2	0	0	0
Helicopters with Standard Category Airworthiness Certificates	5	7	4	5	4	4
Sport Aircraft	3	5	12	7	4	4
Unknown Aircraft	0	0	1	0	0	2
Hang Gliders	1	1	7	2	3	4
Parachutes	0	0	2	0	1	1
<b>Number of Fatal Accidents<sup>4</sup></b>	2	2	4	0	0	3
<b>Number of Fatalities<sup>4</sup></b>	3	4	5	0	0	6
<b>Number of Serious + Minor Injuries<sup>4</sup></b>	8	6	16	6	4	13
<b>Injury Social Cost \$ million<sup>5</sup></b>	9.83	13.44	17.78	0.70	0.33	20.24
<b>Number of Incidents<sup>6</sup></b>	879	1,012	1,076	1,153	982	1,063
<b>Number of Aviation Related Concerns</b>	80	95	119	85	108	76

## 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.

<b>Aircraft Statistics Category</b>	<b>Aircraft Class</b>
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.

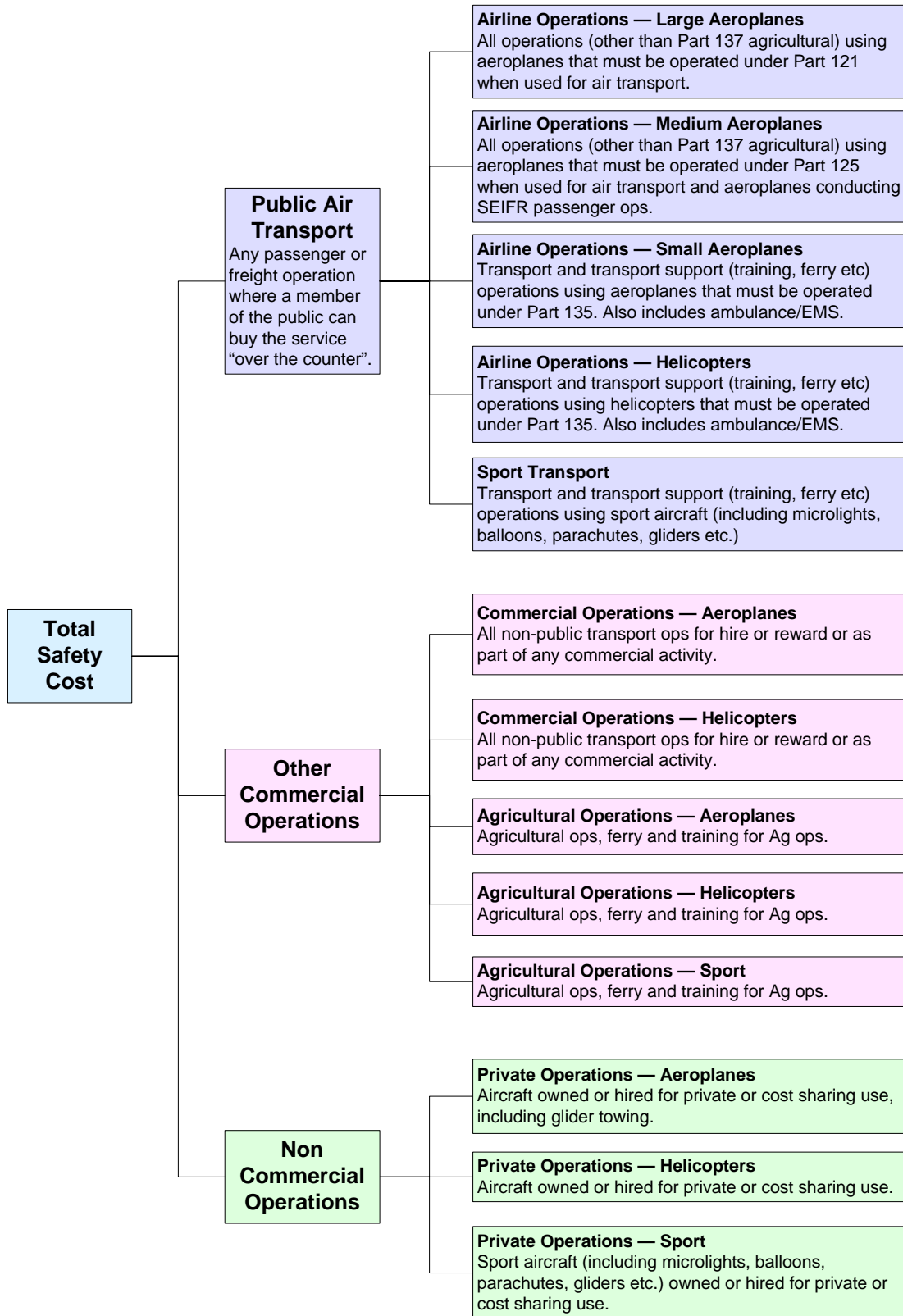
### **Incident**

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.

## Safety Target Structure





### **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:

<b>Severity</b>	<b>Definition</b>
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.