

Statistical Summary of Commercial Jet Airplane Accidents

Worldwide Operations
1959 - 2011

1959

2011

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Introduction

The accident statistics presented in this summary are confined to worldwide commercial jet airplanes that are heavier than 60,000 pounds maximum gross weight. Within that set of airplanes, there are two groups excluded:

- 1) Airplanes manufactured in the Commonwealth of Independent States (CIS) or the Union of Soviet Socialist Republics (USSR) are excluded because of the lack of operational data; and
- 2) Commercial airplanes operated in military service. (However, if a military-owned commercial jet transport is used for civilian commercial service, those data will be included in this summary.)

The following airplanes are included in the statistics:

717	DC-8	A300	BAe 146	F-28	Concorde	L-1011	BAC 1-11	Comet 4
707/720	DC-9	A300-600	Avro RJ-70/-85/-100	F-70				Trident
727	DC-10/MD-10	A310	CRJ-700/-900/-1000	F-100				Caravelle
737	MD-11	A320/321/319/318	EMB-170/-190					Mercure
747	MD-80/-90	A330						CV-880/-990
757		A340						VC-10
767		A380						
777								
787								

Flight operations data for Boeing airplanes are developed internally from airline operator reports. Flight operations data for non-Boeing airplanes are compiled from www.ascendworldwide.com, by Ascend. The source of jet airplane inventory data is Jet Information Services, Inc.

Accident data are obtained, when available, from government accident reports. Otherwise, information is from operators, manufacturers, various government and private information services, and press accounts.

Readers may note that cumulative accident totals from year to year may not exactly correlate with the expected change from the previous year's accidents. This is a result of periodic audits of the entire accident history for updates to the data.

Definitions related to development of statistics in this summary are primarily based on corresponding International Civil Aviation Organization (ICAO), National Transportation Safety Board (NTSB), and Flight Safety Foundation (FSF) terms, as explained in the next section.

Definitions

Airplane Accident: An occurrence associated with the operation of an airplane that takes place between the time any person boards the airplane with the intention of flight and such time as all such persons have disembarked, in which:

- Death or serious injury results from:
 - Being in the airplane; or
 - Direct contact with the airplane or anything attached thereto; or
 - Direct exposure to jet blast;

Excluding:

- Fatal and nonfatal injuries from natural causes; and
- Fatal and nonfatal self-inflicted injuries or injuries inflicted by other persons; and
- Fatal and nonfatal injuries of stowaways hiding outside the areas normally available to the passengers and crew; and
- Nonfatal injuries resulting from atmospheric turbulence, maneuvering, loose objects, boarding, disembarking, evacuation, and maintenance and servicing; and
- Nonfatal injuries to persons not aboard the airplane; or
- The airplane sustains substantial damage; or
- The airplane is missing or is completely inaccessible.

The following occurrences are **not** considered airplane accidents – those that are the result of experimental test flights or the result of a hostile action, including sabotage, hijacking, terrorism, and military action.

Note: This is generally consistent with the ICAO and the NTSB definition of an accident (see the Referenced ICAO and NTSB Definitions section). The differences are:

- 1) *The ICAO and NTSB references to “aircraft” were changed to “airplane” and references to propellers and rotors were eliminated; and*
- 2) *This publication excludes events that result in nonfatal injuries from atmospheric turbulence, maneuvering, etc.; nonfatal injuries to persons not aboard the airplane; and any events that result from an experimental test flight or from hostile action, such as sabotage, hijacking, terrorism, and military action.*

Note: Within this publication, the term “accident” is used interchangeably with “airplane accident.”

Definitions (continued)

Destroyed: The estimated or likely cost of repairs would have exceeded 50 percent of the new value of the airplane had it still been in production at the time of the accident.

Note: This definition is consistent with the FSF definition. NTSB defines “destroyed” as damaged due to impact, fire, or in-flight failures to an extent not economically repairable.

Fatal Injury: Any injury that results in death within 30 days of the accident.

Note: This is consistent with both the ICAO and the NTSB definitions.

Major Accident: An accident in which any of three conditions is met:

- The airplane was destroyed; or
- There were multiple fatalities; or
- There was one fatality and the airplane was substantially damaged.

Note: This definition is consistent with the NTSB definition. It also is generally consistent with FSF, except that the FSF definition specifies that fatalities include only occupants of the airplane. ICAO does not normally define the term “major accident.”

Serious Injury: An injury which is sustained by a person in an accident and which:

- Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- Results in a fracture of any bone (except simple fractures of fingers, toes, or nose); or
- Involves lacerations which cause severe hemorrhage, nerve, muscle, or tendon damage; or
- Involves injury to any internal organ; or
- Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface; or
- Involves verified exposure to infectious substances or injurious radiation.

Note: This is consistent with the ICAO definition. It is also consistent with NTSB’s except for the last bullet item, which is not included in the NTSB definition.

Definitions (continued)

Substantial Damage: Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the airplane, and which would normally require major repair or replacement of the affected component.

Substantial damage is **not** considered to be:

- Engine failure or damage limited to an engine if only one engine fails or is damaged
- Bent fairings or cowlings
- Dents in the skin
- Small puncture holes in the skin
- Damage to wheels
- Damage to tires
- Damage to flaps
- Damage to engine accessories
- Damage to brakes
- Damage to wingtips

Note 1. – This is generally consistent with the NTSB definition of substantial damage except: 1) It deletes reference to “puncture holes in the fabric” and “ground damage to rotor or propeller blades”; and 2) It deletes “damage to landing gear” from the list of items not considered to be substantial damage.

Note 2. – ICAO does not define the term substantial damage. Still, the above definition is generally consistent with the ICAO definition of structural damage contained within part (b) of the ICAO accident definition.

Boeing Terms

The terms on this page were created by Boeing for this publication and do not have corresponding equivalents in ICAO, NTSB, etc.

Accident Rates: In general, this expression is a measure of accidents per million departures. Departures (or flight cycles) are used as the basis for calculating rates, since there is a stronger statistical correlation between accidents and departures than there is between accidents and flight hours, or between accidents and the number of airplanes in service, or between accidents and passenger miles or freight miles. Airplane departures data are continually updated and revised as new information and estimating processes become available. These form the baseline for the measure of accident rates and, as a consequence, rates may vary between editions of this publication.

Airplane Collisions: Events involving two or more airplanes are counted as separate events, one for each airplane. For example, destruction of two airplanes in a collision is considered to be two separate accidents.

Fatal Accident: An accident that results in fatal injury.

Hull Loss: Airplane totally destroyed or damaged and not repaired. Hull loss also includes but is not limited to events in which:

- The airplane is missing; or
- The search for the wreckage has been terminated without it being located; or
- The airplane is completely inaccessible.

Note: Neither ICAO nor NTSB has a definition for hull loss.

Exclusions

Certain airplanes and events are excluded from consideration as accidents in this summary. This is a complete list of those exclusions.

Excluded Airplanes

Airplanes manufactured in the Commonwealth of Independent States (CIS) or the Union of Soviet Socialist Republics (USSR) are excluded because of the lack of operational data. Commercial airplanes operated in military service are also excluded. (However, if a military-owned commercial jet transport is used for civilian commercial service, those data are included in this summary.)

Excluded Events

- Fatal and nonfatal injuries from natural causes;
- Fatal and nonfatal self-inflicted injuries or injuries inflicted by other persons;
- Fatal and nonfatal injuries of stowaways hiding outside the areas normally available to the passengers and crew;
- Nonfatal injuries resulting from atmospheric turbulence, maneuvering, loose objects, boarding, disembarking, evacuation, and maintenance and servicing;
- Nonfatal injuries to persons not aboard the airplane;
- Experimental test flights (however, maintenance test flights, ferry, positioning, training, and demonstration flights are not excluded);
- Sabotage, hijacking, terrorism, and military action.

Referenced ICAO and NTSB Definitions

International Civil Aviation Organization (ICAO) and National Transportation Safety Board (NTSB) definitions are included below for reference.

Accident

ICAO defines an **accident** as follows:

An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

- a) A person is fatally or seriously injured as a result of:
 - Being in the aircraft, or
 - Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - Direct exposure to jet blast,except when the injuries are from natural causes, 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
- b) The aircraft sustains damage or structural failure which:
 - Adversely affects the structural strength, performance, or flight characteristics of the aircraft, and
 - Would normally require major repair or replacement of the affected component,except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or
- c) The aircraft is missing or is completely inaccessible.

NTSB defines an **aircraft accident** as follows:

Aircraft accident means an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Referenced ICAO and NTSB Definitions (continued)

Serious Injury

ICAO defines **serious injury** as follows:

An injury which is sustained by a person in an accident and which:

- a) Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- b) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose); or
- c) Involves lacerations which cause severe hemorrhage, nerve, muscle, or tendon damage; or
- d) Involves injury to any internal organ; or
- e) Involves second or third degree burns, or any burns affecting more than 5 percent of the body surface; or
- f) Involves verified exposure to infectious substances or injurious radiation.

NTSB defines **serious injury** as follows:

Serious injury means any injury which:

- 1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
- 2) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
- 3) Causes severe hemorrhages, nerve, muscle, or tendon damage;
- 4) Involves any internal organ; or
- 5) Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Substantial Damage

NTSB defines **substantial damage** as follows:

Damage or failure that adversely affects the structural strength, performance, or flight characteristics of the aircraft, and that would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small puncture holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wingtips are not considered “substantial damage.”

ICAO does not define the term **substantial damage**.

2011 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

Event Date	Airline	Model (Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Occupants (External Fatalities)	Major Accident
3-Jan-11	American Airlines	737-800 (< 1)	Sched Pax	Los Angeles, USA	Takeoff	The airplane sustained a tail strike during takeoff. The flight continued to its destination, landing safely. There were no injuries.	Substantial				
9-Jan-11	Iran Air	727 (36)	Sched Pax	(near) Urumiyeh, Iran	Final Approach	The airplane crashed in a field approximately 9 NM southeast of the airport while executing a missed approach at night in poor weather.	Destroyed	X	Fatal	78/105 (0)	X
10-Jan-11	AirAsia	A320 (3)	Sched Pax	Kuching, Malaysia	Landing	The airplane lost directional control during the landing roll, veering off the side of the runway, where the nose landing gear collapsed. There were several minor injuries.	Substantial				
10-Jan-11	Africa Charter Airline	737-200 (30)	Ferry	Hoedspruit, South Africa	Taxi	The airplane was being powered backwards when it rolled off the side of the taxiway, coming to rest part way down a steep embankment. There were no injuries.	Substantial	X			
13-Jan-11	American Airlines	757 (14)	Sched Pax	Los Angeles, USA	Takeoff	The airplane sustained a tail strike during takeoff, leveled off, and returned to the departure airport, landing safely. There were no injuries.	Substantial				
16-Feb-11	Saudi Arabian Airlines	747-300 (24)	Sched Pax	Madinah, Saudi Arabia	Landing	During landing, the airplane veered off the side of the runway. The left main landing gear was damaged and both left engines contacted the ground. There were no injuries.	Substantial	X			
24-Feb-11	US Airways	ERJ190 (3)	Sched Pax	New York, USA	Landing	During the landing roll, the aft galley cart rolled forward due to improper latching, striking a passenger's ankle.			Serious		
27-Mar-11	Hapag-Lloyd Flug	737-800 (11)	Sched Pax	Tenerife, Spain	Takeoff	The airplane rejected the takeoff after the tail contacted the runway. There were no injuries.	Substantial				
30-Mar-11	Northern Air Cargo	737-300 (23)	Ferry	Dayton, USA	Initial Climb	While departing on a positioning flight, an unsecured pallet jack in the otherwise empty cargo hold struck and fractured a structural frame. There were no injuries.	Substantial				
11-Apr-11	Comair	CRJ700 (7)	Sched Pax	New York, USA	Taxi	The airplane was holding while waiting to taxi onto its stand when the left wingtip of a taxiing A380 struck its vertical stabilizer. The impact force swung the airplane about 90 degrees. There were no injuries.	Substantial				
13-Apr-11	Air France	A330 (9)	Sched Pax	Caracas, Venezuela	Landing	The airplane sustained a hard landing in poor weather and gusty winds. There were no injuries.	Substantial				
17-Apr-11	China Cargo	777 (<1)	Sched Cargo	Copenhagen, Denmark	Landing	After making a hard, bounced landing, the crew elected to go around. During the takeoff, the airplane was damaged by a tail strike. There were no injuries.	Substantial				
6-May-11	Continental Airlines	737-800 (12)	Ferry	Greenville, USA	Taxi	During taxi, a portion of the concrete tarmac collapsed under the left main landing gear due to a large sinkhole. Both the landing gear and the left engine were damaged. There were no injuries.	Substantial				

2011 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

Event Date	Airline	Model (Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Occupants (External Fatalities)	Major Accident
18-May-11	Omega Air Inc.	707 (42)	Charter Cargo	Point Mugu NAS, USA	Initial Climb	Just after liftoff, the left inboard engine and pylon separated from the wing and struck the left outboard engine. The crew aborted the flight and touched down on the runway. The airplane departed the side of the runway and stopped in an estuary. It was destroyed by impact and post-crash fire. Three crew members sustained minor evacuation injuries.	Destroyed	X			X
28-May-11	SBA Airlines	767 (20)	Sched Pax	Caracas, Venezuela	Landing	The airplane sustained damage during a hard landing. There were no injuries.	Substantial				
25-Jun-11	Malev Hungarian Airlines	737-800 (8)	Sched Pax	Heraklion, Greece	Landing	The airplane sustained damage from a tail strike on landing. There were no injuries.	Substantial				
8-Jul-11	Hewa Bora Airways	727 (46)	Sched Pax	Kisangani, Congo DR	Final Approach	The airplane crashed short of the runway while on final approach. The airplane broke up and caught fire. The accident happened in daylight, but in heavy weather and reduced visibility.	Destroyed	X	Fatal	83/118 (0)	X
14-Jul-11	Delta Connection	CRJ 900 (2)	Sched Pax	Boston, USA	Taxi	The airplane was holding for departure when the winglet of a taxiing 767 contacted the vertical and horizontal stabilizers. There were no injuries.	Substantial				
28-Jul-11	Asiana Airlines	747-400 (5)	Sched Cargo	East China Sea near Jeju Island, South Korea	Cruise	After reporting a cargo fire and the need to divert, the airplane disappeared from radar contact while descending. It was found to have crashed in the East China Sea.	Destroyed	X	Fatal	2/2 (0)	X
29-Jul-11	Egyptair	777 (14)	Sched Pax	Cairo, Egypt	Load /Unload	While parked at the gate, preparing for departure, the airplane's flight crew ordered an evacuation of the airplane due to smoke and fire on the flight deck. All passengers and crew evacuated through the jetways, which were still in place. There were several minor injuries to fire fighters.	Substantial	X			
30-Jul-11	Caribbean Airlines Limited	737-800 (4)	Sched Pax	Georgetown, Guyana	Landing	After touching down, the airplane skidded off the end of the runway, ran through a perimeter fence, and broke in two.	Destroyed	X	Serious		X
20-Aug-11	First Air	737-200 (36)	Charter Pax	Resolute Bay, Canada	Final Approach	The airplane broke apart when it impacted a small hill while on landing approach in reduced visibility. The last Air Traffic Control contact was reportedly a normal call approximately 8 km from the airport.	Destroyed	X	Fatal	12/15 (0)	X
29-Aug-11	Gulf Air	A320 (1)	Sched Pax	Cochin, India	Landing	On final approach, the airplane encountered heavy rain and gusty winds. On touchdown, the airplane veered off the side of the runway onto the grass and came to rest with its nose landing gear collapsed.	Substantial		Serious		
2-Sep-11	Turkish Airlines	A340 (15)	Sched Pax	Mumbai, India	Landing	After landing, the airplane veered off the side of the runway onto soft ground as it exited the runway via high speed taxiway. There were no injuries.	Substantial				

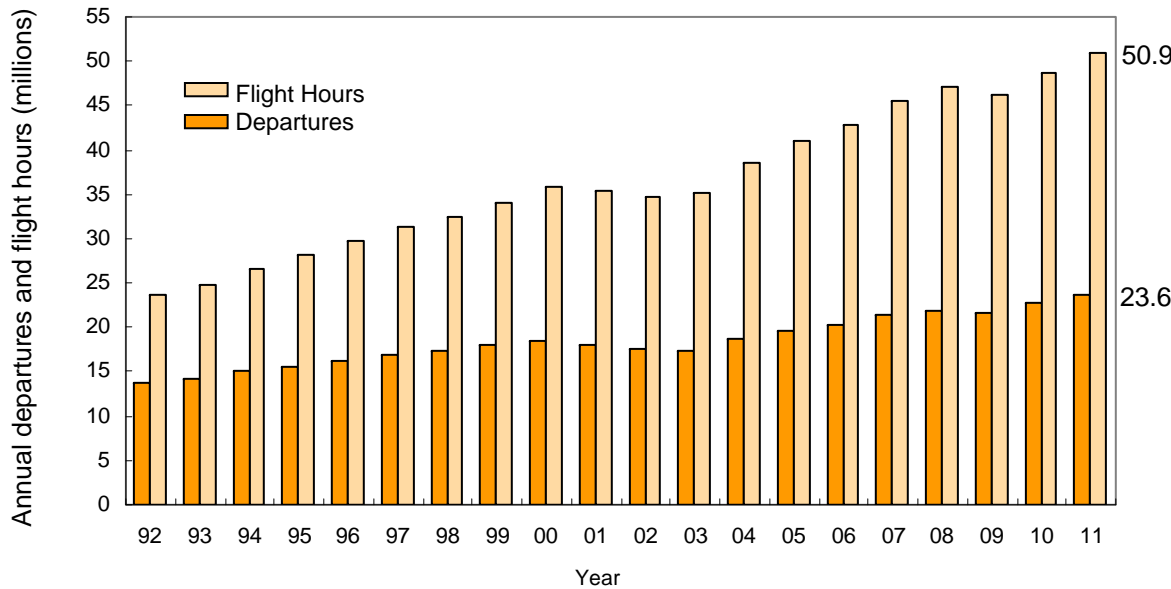
2011 Airplane Accidents

All Accidents – Worldwide Commercial Jet Fleet

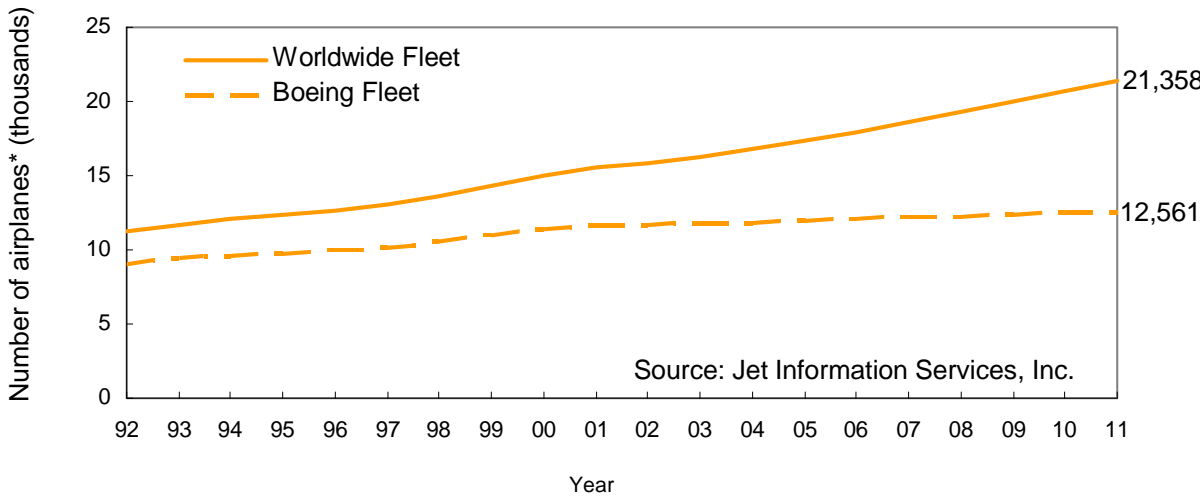
Event Date	Airline	Model (Age in Years)	Type of Operation	Accident Location	Phase of Flight	Event Description	Damage Category	Hull Loss	Injury Category	Onboard Fatalities / Occupants (External Fatalities)	Major Accident
3-Sep-11	Mahan Air	A300-600 (21)	Sched Pax	Mashad, Iran	Landing	After a hard landing that burst a nose wheel tire, the airplane veered off the runway where the nose landing gear collapsed.	Substantial		Serious		
16-Sep-11	TAME	EMB 190 (5)	Sched Pax	Quito, Ecuador	Landing	The airplane overran the runway on landing, struck a localizer antenna and came to rest after impacting the airport perimeter wall. The accident happened at night in poor weather. There were no injuries.	Destroyed	X			X
26-Sep-11	Aeropostal	DC-9 (35)	Sched Pax	Puerto Ordaz, Venezuela	Landing	The airplane sustained a hard landing. Both engine pylons separated at the fuselage attach points. The airplane stopped on the runway. There were no injuries.	Substantial	X			
7-Oct-11	Delta Airlines	MD-88 (23)	Sched Pax	Atlanta, USA	Tow	During pushback from the gate, while turning the airplane, the tug contacted the forward fuselage and nose landing gear. There were no injuries.	Substantial				
10-Oct-11	Sky Airlines	737-400 (18)	Charter Pax	Antalya, Turkey	Landing	The airplane conducted a smooth high speed landing after the flaps were unable to be extended to a landing position. After a reported gear shimmy, the right main landing gear collapsed and the airplane slid to a stop on the left main gear, nose gear and right engine pod. There were no injuries.	Substantial	X			
18-Oct-11	Iran Air	727 (37)	Sched Pax	Tehran, Iran	Landing	The airplane landed with its nose landing gear retracted. There were no injuries.	Substantial				
1-Nov-11	LOT Polish Airlines	767 (14)	Sched Pax	Warsaw, Poland	Landing	The airplane landed with all three landing gear retracted. There were no injuries.	Substantial				
10-Nov-11	SA-Airlink	RJ-85 (15)	Sched Pax	Johannesburg, South Africa	Landing	The airplane touched down with its nose landing gear retracted and came to rest on its nose on the runway. There were no injuries.	Substantial				
14-Dec-11	Air Canada	A321 (10)	Sched Pax	Fort Lauderdale, USA	Taxi	The airplane was stopped abruptly during taxi for departure due to a potential incursion with another airplane vacating the runway.			Serious		
20-Dec-11	Sriwijaya Air	737-300 (15)	Sched Pax	Yogyakarta, Indonesia	Landing	After landing in heavy rain, the airplane came to a stop on soft ground left of and about 25 meters past the end of the runway. Both the right main and nose landing gear collapsed. Several minor injuries occurred during evacuation.	Substantial	X			
23-Dec-11	Austrian Airlines	A321 (10)	Sched Pax	Manchester, England	Go Around	After encountering heavy turbulence on final approach, the crew elected to go around. After initiating the go-around, a windshear caused the airplane landing gear to briefly contact the runway. The tail struck the runway as the airplane took off. The second landing was uneventful. There were no injuries.	Substantial				
25-Dec-11	AMC Airlines	MD-83 (15)	Charter Pax	Karachi, Pakistan	Landing	After unsuccessful troubleshooting, the airplane landed with its nose landing gear retracted. There were no injuries.	Substantial				
36	Total Accidents							13		175 Onboard (0) External	7

Departures, Flight Hours, and Jet Airplanes in Service*

Worldwide Operations 1992 Through 2011



- 610 million departures since 1959 (458 million on Boeing airplanes)
- 1,094 million flight hours since 1959 (826 million on Boeing airplanes)



* Certified jet airplanes greater than 60,000 pounds maximum gross weight, including those in temporary non-flying status and those in use by non-airline operators. Excluded are commercial airplanes operated in military service and CIS/USSR-manufactured airplanes.

Accident Summary by Type of Operation

Worldwide Commercial Jet Fleet

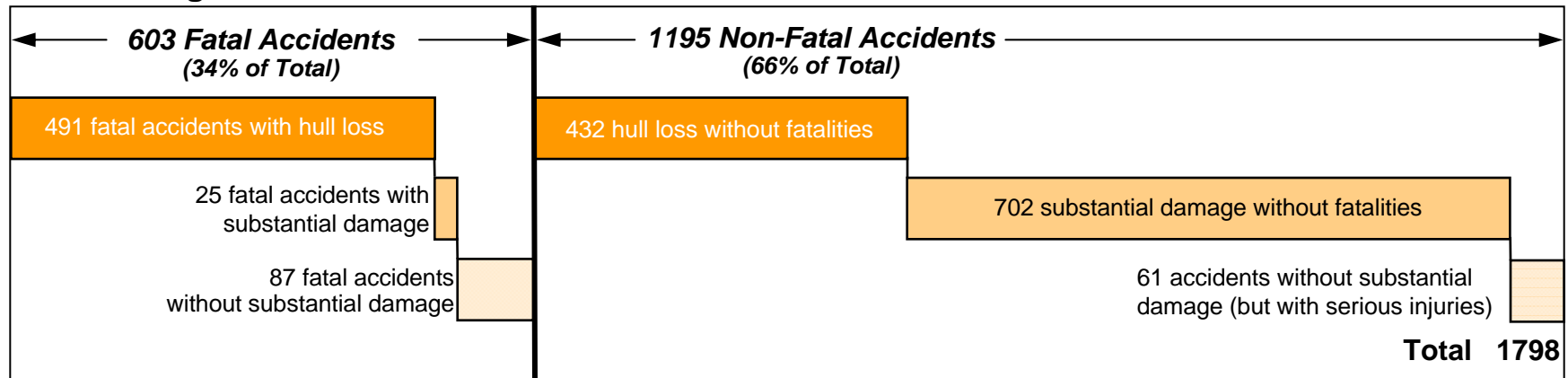
Type of Operation	All Accidents		Fatal Accidents		Onboard Fatalities (External Fatalities)*		Hull Loss Accidents	
	1959-2011	2002-2011	1959-2011	2002-2011	1959-2011	2002-2011	1959-2011	2002-2011
Passenger	1,424	317	483	63	28,553 (777)	4,486 (142)	680	129
- <i>Scheduled</i>	1,307	294	437	60	24,427	4,470	611	122
- <i>Charter</i>	117	23	46	3	4,126	16	69	7
Cargo	252	74	76	13	264 (330)	44 (72)	169	44
Maintenance test, ferry, positioning, training, and demonstration	122	13	44	3	208 (66)	17 (0)	74	8
Totals	1,798	404	603	79	29,025 (1,173)	4,547 (214)	923	181
U.S. and Canadian Operators	555	78	180	11	6,193 (381)	17 (8)	222	26
Rest of World	1,243	326	423	68	22,832 (792)	4,530 (206)	701	155
Totals	1,798	404	603	79	29,025 (1,173)	4,547 (214)	923	181

*External fatalities include on-ground fatalities as well as fatalities on other aircraft involved.

Accident Summary by Injury and Damage

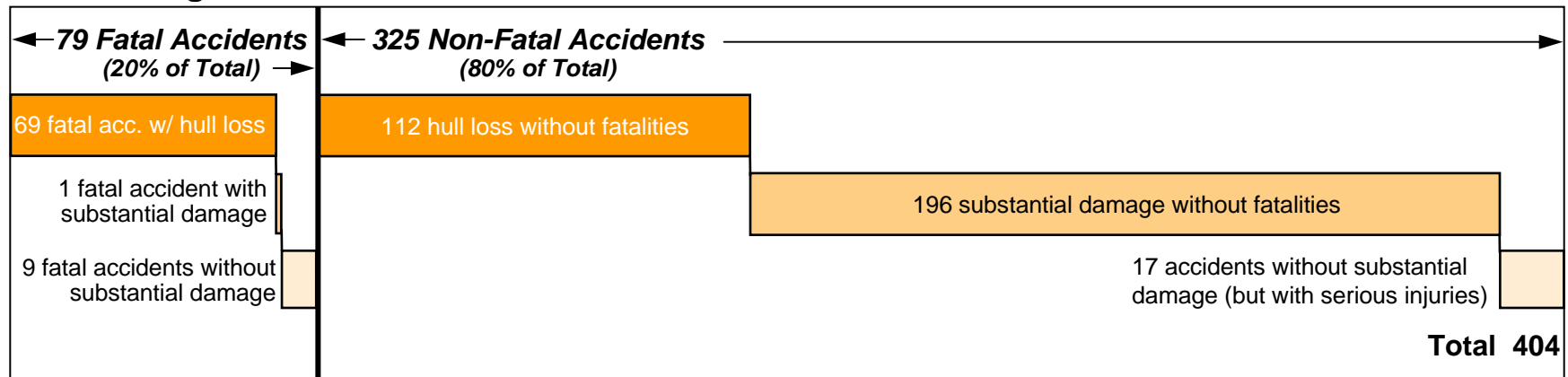
All Accidents – Worldwide Commercial Jet Fleet

1959 Through 2011



Number of Accidents

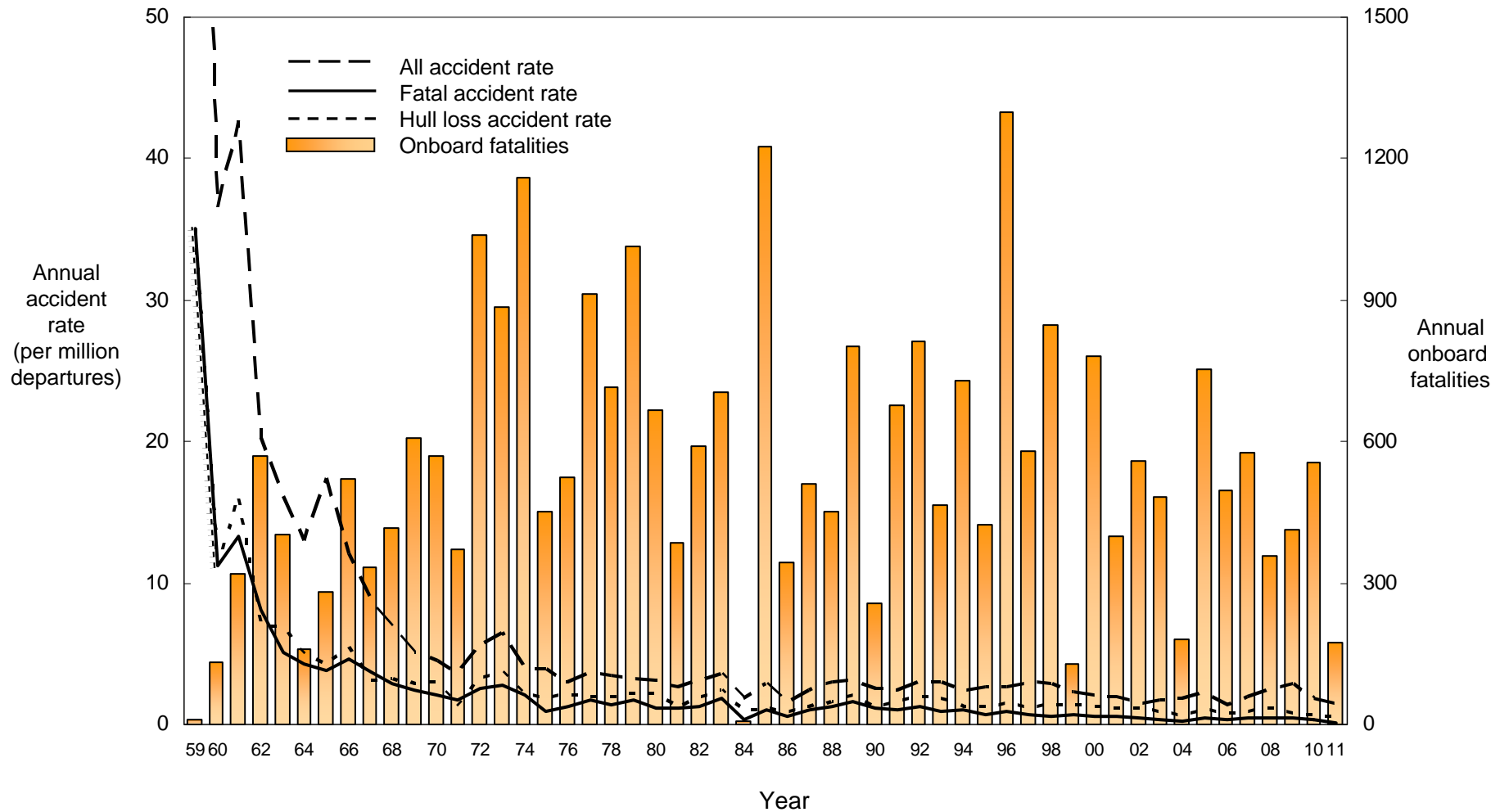
2002 Through 2011



Number of Accidents

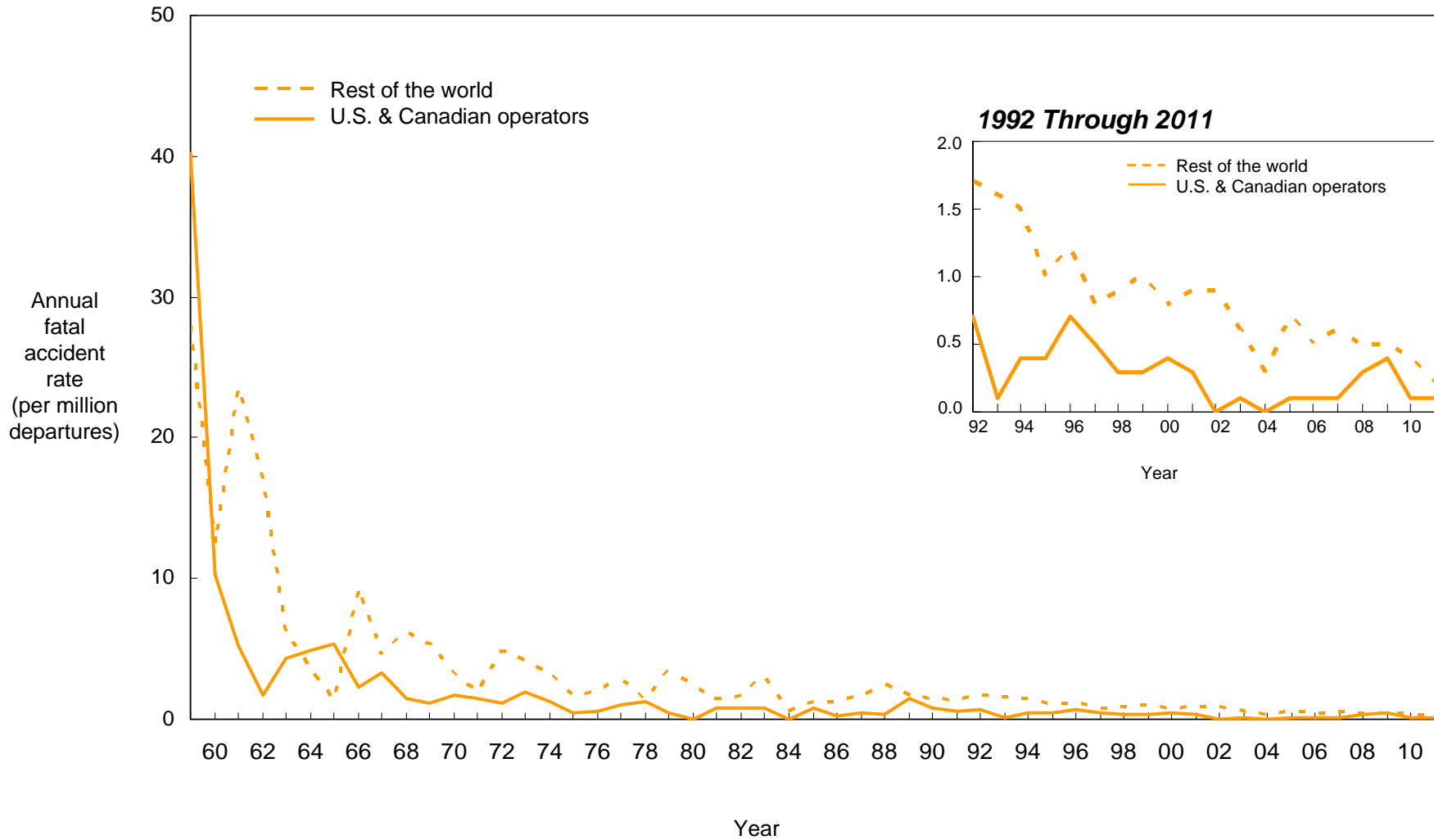
Accident Rates and Onboard Fatalities by Year

Worldwide Commercial Jet Fleet – 1959 Through 2011



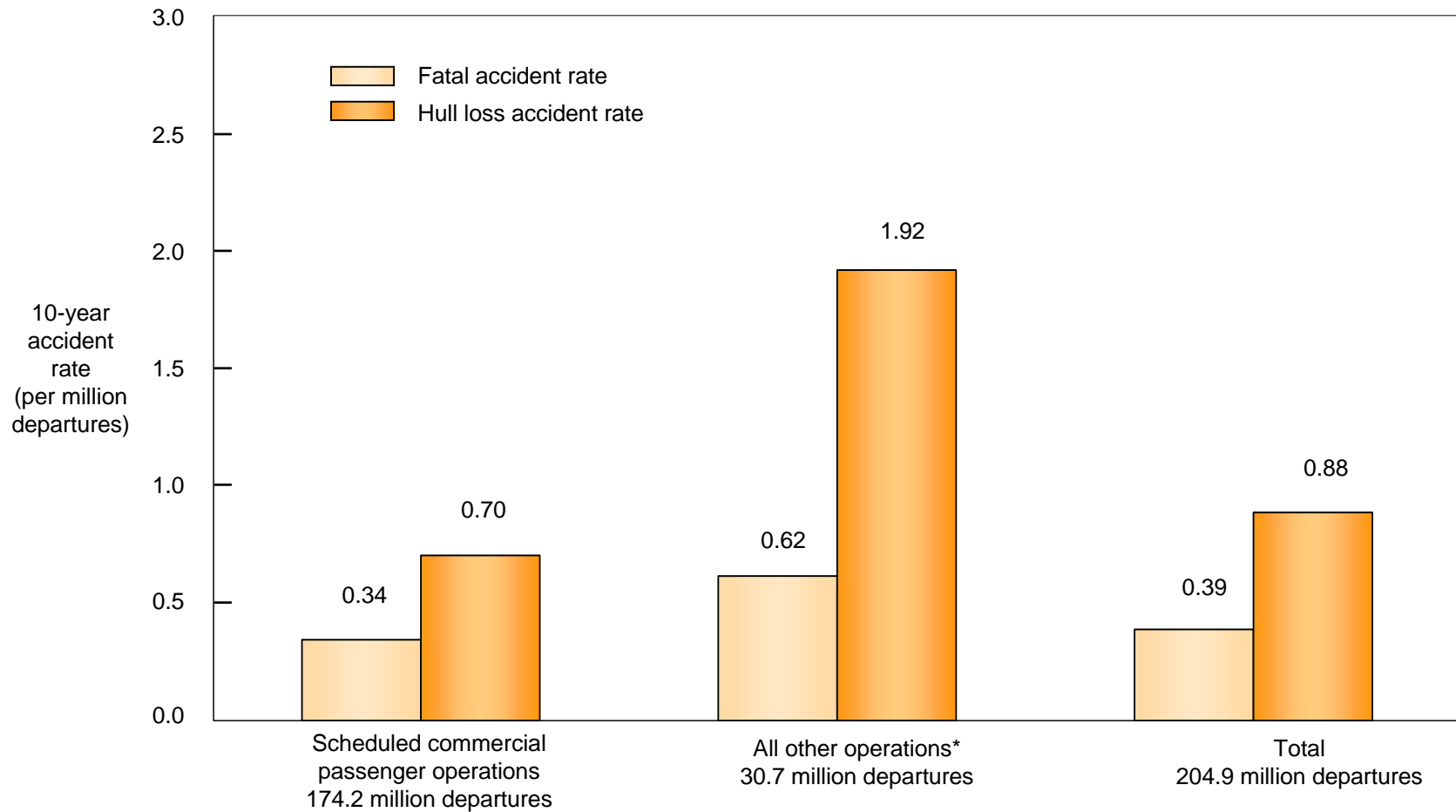
U.S. and Canadian Operators Accident Rates by Year

Fatal Accidents – Worldwide Commercial Jet Fleet – 1959 Through 2011



10-Year Accident Rates by Type of Operation

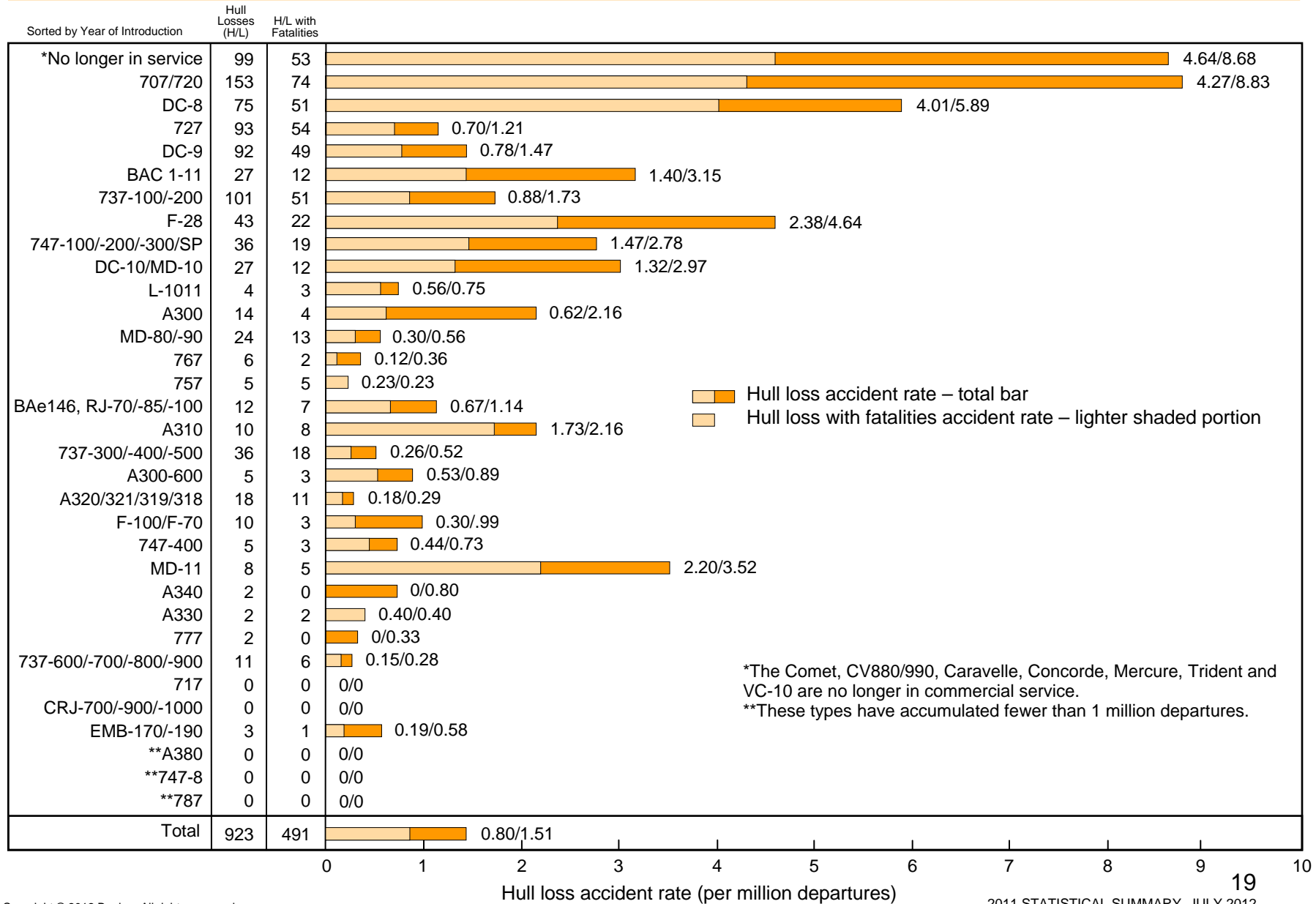
Fatal and Hull Loss Accidents – Worldwide Commercial Jet Fleet – 2002 Through 2011



*Charter passenger, charter cargo, scheduled cargo, maintenance test, ferry, positioning, training, and demonstration flights

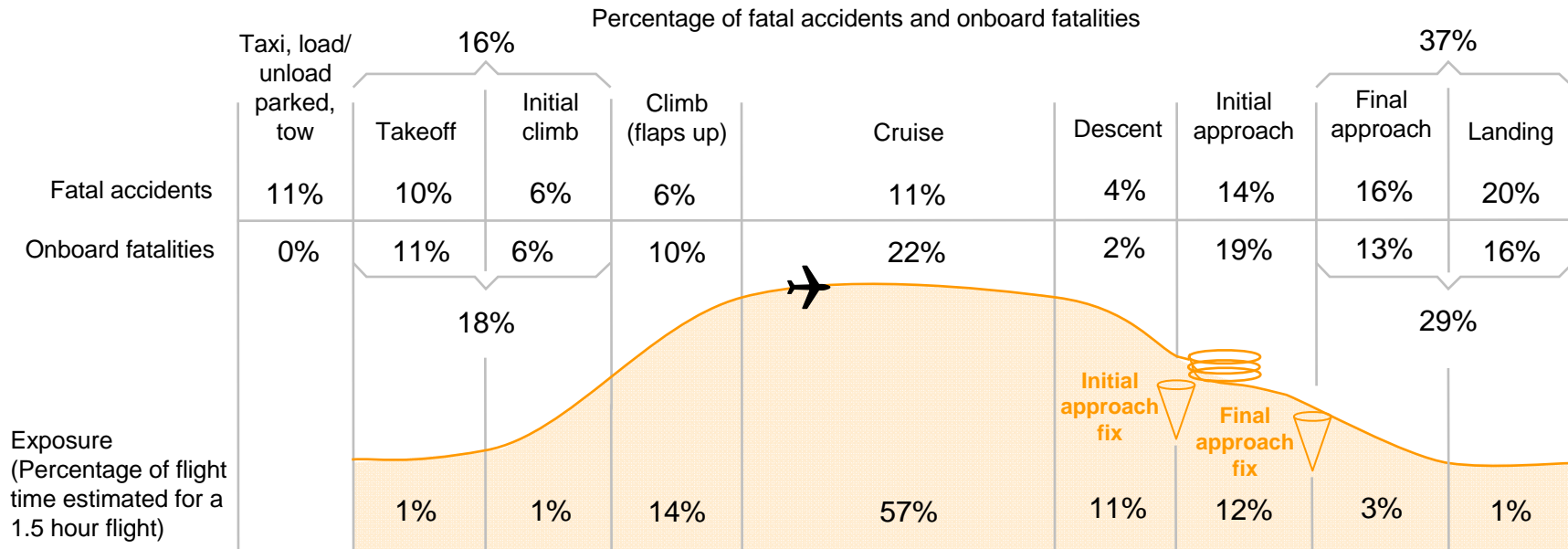
Accident Rates by Airplane Type

Hull Loss Accidents – Worldwide Commercial Jet Fleet – 1959 Through 2011

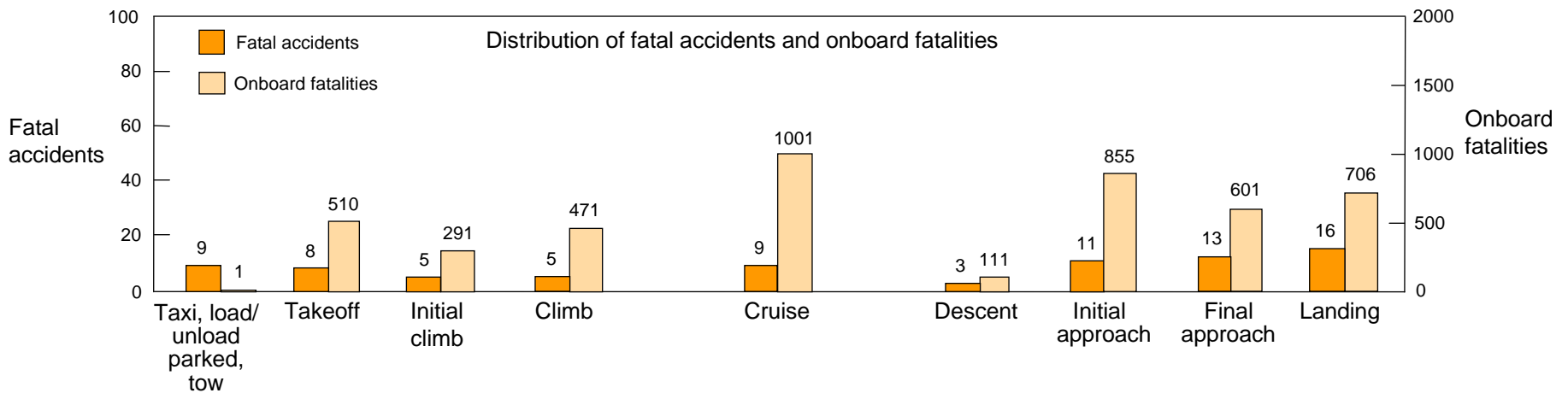


Fatal Accidents and Onboard Fatalities by Phase of Flight

Worldwide Commercial Jet Fleet – 2002 Through 2011



Percentages may not sum precisely due to numerical rounding.



CAST/ICAO Common Taxonomy Team (CICTT) Aviation Occurrence Categories

The International Civil Aviation Organization (ICAO) and the Commercial Aviation Safety Team (CAST), which includes government officials and aviation industry leaders, have jointly chartered the CAST/ICAO Common Taxonomy Team (CICTT). CICTT includes experts from several air carriers, aircraft manufacturers, engine manufacturers, pilot associations, regulatory authorities, transportation safety boards, ICAO, and members from Canada, the European Union, France, Italy, the Netherlands, the United Kingdom, and the United States. CICTT is co-chaired by a representative from ICAO and CAST.

The team is charged with developing common taxonomies and definitions for aviation accident and incident reporting systems. Common taxonomies and definitions establish a standard industry language, thereby improving the quality of information and communication. With this common language, the aviation community's capacity to focus on common safety issues is greatly enhanced.

The CICTT Aviation Occurrence Taxonomy is designed to permit the assignment of multiple categories as necessary to describe the accident or incident. Since 2001, the Safety Indicator Steering Group (SISG) has met annually to assign CICTT occurrence categories to the prior year's accidents.

In a separate activity, the CAST assigned each accident to a single principal category. Those accident assignments and a brief description of the categories are reported in the preceding chart.

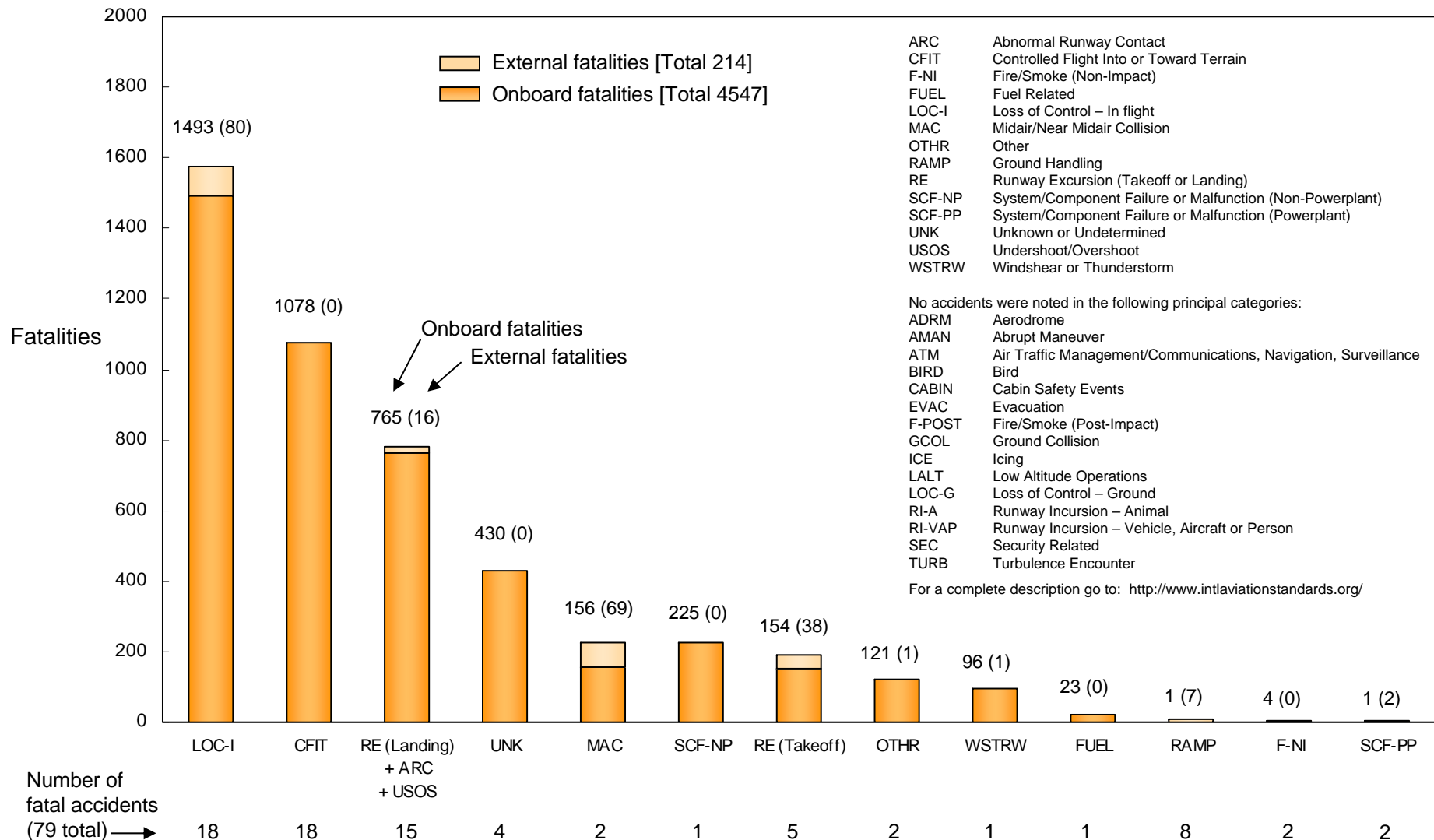
The CAST use of principal categories has been instrumental in focusing industry and government efforts and resources on accident prevention. Pareto charts using principal categories are used by CAST to identify changes to historic risk and to help to determine if the safety enhancements put in place are effective.

For a complete description of the categories go to: <http://www.intlaviationstandards.org/>

Fatalities by CAST/ICAO Common Taxonomy Team (CICTT)

Aviation Occurrence Categories

Fatal Accidents – Worldwide Commercial Jet Fleet – 2002 Through 2011



- ARC Abnormal Runway Contact
- CFIT Controlled Flight Into or Toward Terrain
- F-NI Fire/Smoke (Non-Impact)
- FUEL Fuel Related
- LOC-I Loss of Control – In flight
- MAC Midair/Near Midair Collision
- OTHR Other
- RAMP Ground Handling
- RE Runway Excursion (Takeoff or Landing)
- SCF-NP System/Component Failure or Malfunction (Non-Powerplant)
- SCF-PP System/Component Failure or Malfunction (Powerplant)
- UNK Unknown or Undetermined
- USOS Undershoot/Overshoot
- WSTRW Windshear or Thunderstorm

- No accidents were noted in the following principal categories:
- ADRM Aerodrome
 - AMAN Abrupt Maneuver
 - ATM Air Traffic Management/Communications, Navigation, Surveillance
 - BIRD Bird
 - CABIN Cabin Safety Events
 - EVAC Evacuation
 - F-POST Fire/Smoke (Post-Impact)
 - GCOL Ground Collision
 - ICE Icing
 - LALT Low Altitude Operations
 - LOC-G Loss of Control – Ground
 - RI-A Runway Incursion – Animal
 - RI-VAP Runway Incursion – Vehicle, Aircraft or Person
 - SEC Security Related
 - TURB Turbulence Encounter

For a complete description go to: <http://www.intlaviationstandards.org/>

Note: Principal categories as assigned by CAST.

Notes

Notes



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