= Avianca Flight 52 =

Avianca Flight 52 was a regularly scheduled flight from Bogotá to New York , via Medellín that crashed on January 25 , 1990 , at 21 : 34 (UTC ? 05 : 00) . The Boeing 707 flying this route ran out of fuel on approach to John F. Kennedy International Airport (JFK) , causing the aircraft to crash onto a hillside in the small village of Cove Neck , New York , on the north shore of Long Island . Eight of the nine crew members and 65 of the 149 passengers on board were killed . The National Transportation Safety Board (NTSB) determined that the crash occurred due to the flight crew failing to properly declare a fuel emergency , resulting in air traffic control underestimating the seriousness of the situation .

The flight left Medellín with more than enough fuel for the journey and progressed toward JFK normally . While en route , the flight was placed in three holding patterns . Due to poor communication between the air crew and the air traffic controllers , as well as an inadequate management of the fuel load by the pilots , the flight became critically low on fuel . This dire situation was not recognized as an emergency by the controllers . The flight attempted to make a landing at JFK , but bad weather , coupled with poor communication and inadequate management of the aircraft , forced it to abort and attempt a go @-@ around . The flight ran out of fuel before it was able to make a second landing attempt . The airplane crashed approximately 20 miles (32 km) from JFK .

Hundreds of emergency personnel responded to the crash site and helped save victims . Many of those who survived were severely injured and required months or years to physically recover . NTSB investigators looked at various factors that contributed to the crash . The failures of the flight crew were cited as the probable cause of the crash , but the weather , air traffic controller performances , and FAA traffic management were also cited as contributing to the events that led to the accident . This conclusion was controversial , with disagreement between investigators , passengers , and Avianca as to who was ultimately responsible . Eventually , the U.S. government joined with Avianca and settled to pay for the damages to the victims and their families . The crash was also portrayed in a variety of media .

= = Background = =

The Avianca Flight 52 aircraft was a Boeing 707 @-@ 321B (registration number HK 2016) . The aircraft was manufactured in June 1967 and was purchased by Avianca from Pan Am in 1977 . By the time of the crash , the aircraft had over 61 @,@ 000 flight hours . The 707 was equipped with four JT3D @-@ 3B engines modified with a hush kit to reduce noise pollution . Avianca personnel reported that they factored in a five @-@ percent fuel overburn into the performance calculations due to the hush kit along with an additional five @-@ percent overburn due to the age of the aircraft . Additionally , maintenance crews had noted recurring issues with the aircraft 's autopilot , including the altitude hold function .

The flight was manned by a crew of nine , including six flight attendants and three flight crewmen . The flight crew was captained by 51 @-@ year @-@ old Laureano Caviedes with 28 @-@ year @-@ old first officer (copilot) Mauricio Klotz and 45 @-@ year @-@ old flight engineer Matias Moyano . At the time of the crash , Captain Caviedes had been employed with Avianca for over 27 years and had logged over 16 @,@ 000 hours of flight time , including over 1 @,@ 500 in the 707 . Caviedes had 478 hours of night flying experience in the 707 and had no record of any prior accidents . Copilot Klotz had been employed with Avianca for three years and had 1 @,@ 837 hours of flight time . Klotz had transitioned to the 707 the previous October and had logged 64 flight hours in the airframe , including 13 at night . Flight engineer Moyano had been employed with Avianca for over 23 years and had over 10 @,@ 000 hours of flight time , including over 3 @,@ 000 hours in the 707 and over 1 @,@ 000 hours of night flying in the same airframe .

= = Flight = =

Avianca Flight 52 was a regularly scheduled international passenger flight from El Dorado International Airport in Bogotá , Colombia , to John F. Kennedy International Airport (JFK) in Queens , New York , with an intermediate stop in José María Córdova International Airport near Medellín , Colombia .

= = = Departure and flight = = =

Flight 52 departed Bogotá at 13 : 10 Eastern Standard Time , five minutes ahead of schedule , on January 25 , 1990 . The flight landed at Medellín at 14 : 04 and prepared to fly the leg to JFK . At Medellín , the aircraft landed with 67 @,@ 200 pounds (30 @,@ 500 kg) of fuel . The flight plan filed for the journey to JFK called for 55 @,@ 520 pounds (25 @,@ 180 kg) of fuel required for the trip to JFK , 4 @,@ 510 pounds (2 @,@ 050 kg) for reserve fuel , 7 @,@ 600 pounds (3 @,@ 400 kg) for alternate fuel , 4 @,@ 800 pounds (2 @,@ 200 kg) for holding fuel , and 1 @,@ 500 pounds (680 kg) of taxi fuel totaling 73 @,@ 930 pounds (33 @,@ 530 kg) minimum of block fuel . The dispatcher at Medellín ordered a total fuel load of 78 @,@ 000 pounds (35 @,@ 000 kg) , including 4 @,@ 070 pounds (1 @,@ 850 kg) of " top off " fuel to raise the aircraft weight to the maximum allowable for the planned departure runway . At Medellín , the captain and dispatcher decided to use another runway and requested an additional 2 @,@ 000 pounds (910 kg) of fuel .

The flight departed Medellín at 15 : 08 , bound for JFK . The flight first entered U.S. airspace of Miami Air Route Traffic Control Center at 17 : 28 , flying at 35 @,@ 000 feet (11 @,@ 000 m) , and proceeded northward , climbing to 37 @,@ 000 feet (11 @,@ 000 m) . The flight was cleared to fly Atlantic route 7 to the DIXON navigational aid and jet airway 174 to Norfolk , Virginia . Flight 52 entered its first holding pattern over Norfolk at 19 : 04 and remained circling until 19 : 23 . From there , Flight 52 continued on to the BOTON intersection near Atlantic City , New Jersey where it was placed in a second holding pattern from 19 : 43 to 20 : 12 . The flight proceeded to the CAMRN intersection where it entered its third holding pattern from 20 : 18 to 20 : 47 . Flight 52 entered the CAMRN holding pattern at 14 @,@ 000 feet (4 @,@ 300 m) , having been cleared to descend prior to arrival at the intersection , and the flight descended further to 11 @,@ 000 feet (3 @,@ 400 m) while in the CAMRN holding pattern . At 20 : 44 : 09 , while still holding at CAMRN , the New York Air Route Traffic Control Center (ZNY) advised Flight 52 that there was an " indefinite hold " and to continue holding at CAMRN . At 20 : 44 : 43 , the ZNY controller told the flight to " expect further clearance " at 21 : 05 . The flight had previously been given two delay estimates that had passed .

At that point , First Officer Klotz radioed the controller , saying , " ah well I think we need priority we 're passing [unintelligible] . " The controller inquired as to how long the flight could hold as well as what their alternate airport was . Klotz replied at 20 : 46 : 03 that they could hold for five more minutes . The controller once again inquired as to their alternate airport and Klotz replied at 20 : 46 : 24 , " It was Boston but we can 't do it now we , we , don 't , we run out of fuel now . " A handoff controller listening in on the conversation called the New York Terminal Radar Approach Control (NY TRACON) at 20 : 46 : 24 and advised the TRACON controller that Avianca Flight 52 could only hold for five more minutes . The handoff controller asked whether NY TRACON could take the flight or whether to send Avianca to its alternate airport . The NY TRACON controller replied , " Slow him to one eight zero knots and I 'll take him . " The handoff controller later testified that he had not heard Flight 52 say that they could no longer reach their alternate airport . At 20 : 46 : 47 , the NY ARTCC radar controller cleared the flight to proceed to JFK at 11 @,@ 000 feet (3 @,@ 400 m) and to slow to 180 knots (210 mph) . Flight 52 departed the CAMRN holding pattern at 20 : 47 .

= = = Landing attempt = = =

At 20 : 47 : 27 , the NY TRACON feeder controller told the flight crew to " expect an ILS two two left " " altimeter two niner six niner proceed direct Deer Park . " At 20 : 54 : 40 , the feeder controller directed Flight 52 to make a 360 ° turn . At 20 : 56 : 16 , the controller gave the flight a wind shear advisory of an " increase of ten knots at fifteen hundred feet and then an increase of ten knots at five

hundred feet . " The flight crew acknowledged the advisory . At 21 : 00 , JFK was experiencing light drizzle and fog with 1 ? 4 mile visibility , an indefinite ceiling with 200 feet (61 m) obscured , and a wind of 21 knots (24 mph) at 190 ° .

At 21 : 03 : 07 , Flight 52 contacted the NY TRACON final controller who cleared them to descend progressively to 2 @,@ 000 feet (610 m) . At 21 : 03 : 46 , the flight crew discussed the go @-@ around procedures . At 21 : 09 : 29 , flight engineer Moyano stated that the controllers " already know that we are in [a] bad condition . " The captain said , " No they are descending us , " and the second officer added , " They are giving us priority . " At 21 : 11 : 07 , the NY TRACON final vector controller informed the flight that they were fifteen miles from the outer marker and instructed them to maintain an altitude of 2 @,@ 000 feet (610 m) " until established on the localizer . " The flight crew began preparing for an instrument landing approach , extending flaps and discussing the appropriate airspeed . The final controller instructed the flight crew to contact the JFK tower controllers and signed off . Klotz acknowledged the transmission .

At 21 : 15 : 19 , Klotz contacted the tower controllers and informed that Flight 52 was " established two two left . " One minute later , the captain asked if he should lower the landing gear , but the first officer replied , " No I think it 's too early now . " At 21 : 17 : 30 , JFK tower asked Flight 52 to increase their airspeed by ten knots to 150 knots (170 mph) . At 21 : 18 : 11 , the flight was three miles from the outer marker . Twenty @-@ one seconds later , the first officer remarked " glideslope alive . " At 21 : 19 : 09 , the captain requested the landing gear be deployed . Almost a minute later , the JFK tower cleared the flight to land on runway 22L . The captain asked the first officer to confirm that the flight was cleared to land . At 21 : 20 : 28 , the first officer began informing the captain that the aircraft was below the glideslope . At 21 : 22 : 07 , Flight 52 descended to 1 @,@ 000 feet (300 m) . The aircraft began descending beyond the angle of the glideslope , then began climbing above it , followed by a steeper descent . At 21 : 22 : 57 , the first officer commented , " This is the wind shear . " The first officer warned the pilot about the sink rate and noted an altitude of 500 feet (150 m) at 21 : 23 : 10 . As he warned the pilot , the ground proximity warning system (GPWS) began eleven " whoop whoop pull up " audible warnings . At 21 : 23 : 13 , the pilot called for lights , followed by questions as to where the runway was a few seconds later . The GPWS began four " glideslope " audible warnings a few seconds later , alerting the flight crew that the aircraft was below the glideslope . In response to the captain 's inquiries , the first officer replied that he did not see the runway . At 21 : 23 : 23 , the flight began climbing again , having come within 250 feet (76 m) of crashing two miles short of the runway . The landing gear was raised and the first officer announced that the flight was executing a missed approach .

= = = Crash = = =

The JFK tower controller asked the flight to climb to 2 @,@ 000 feet (610 m) and make a left turn . At 21 : 24 : 06 , the captain asked the first officer to " tell them we are in [an] emergency . " The first officer told the JFK tower controller that " we 'll try once again [;] we 're running out of fuel , " to which the controller replied , " okay . " A few seconds later , the captain again told the first officer to " advise him we are [in an] emergency " and asked if he did so . The first officer replied , " Yes sir , I already advised him . " The JFK controller directed the flight to contact the NY TRACON approach controller once more at 21 : 24 : 39 . The TRACON controller asked the flight to climb once more to 3 @,@ 000 feet (910 m) . The captain asked the first officer again to " advise him we don 't have fuel . " The first officer replied , " Climb and maintain three thousand and ah we 're running out of fuel sir . " The captain once again asked whether the first officer had advised the controller of the fuel emergency , and the first officer replied , " Yes sir . I already advise him [;] hundred and eighty on the heading [;] we are going to maintain three thousand feet and he 's going to get us back . "

A minute later , the controller instructed the flight to turn to the northeast and asked the flight crew if they had enough fuel to be directed fifteen miles from the airport . First Officer Klotz replied , " I guess so thank you very much . " At 21 : 29 : 11 , Klotz asked the controller if he " can give us a final now ... ? " The controller said , " affirmative sir [;] turn left heading zero four zero . " At 21 : 30 : 12 , the controller cleared another aircraft for landing . Klotz briefly thought the clearance was directed at

Avianca and began to tell Captain Caviedes to change course before the controller corrected him . The controller then asked Avianca to climb to 3 @,@ 000 feet (910 m) . Klotz replied , " negative sir we just running out of fuel we okay three thousand now okay . " The controller continued to direct the flight northward , away from the airport . At 21 : 31 : 01 , the controller said , " Okay and you 're number two for the approach [;] I just have to give you enough room so you make it without ah having to come out again . "

At 21 : 32 : 38 , the cockpit voice recorder (CVR) recorded a temporary interruption in power . A second later , Flight Engineer Moyano exclaimed , " Flame out [;] flame out on engine number four . " The CVR recorded another interruption in power one second after that , and Moyano said , " Flame out on engine number three [;] essential on number two or number one . " The captain acknowledged . At 21 : 32 : 49 , Klotz radioed the controller , informing him that the flight had " just ah lost two engines [,] and ... we need priority please . " The controller instructed the flight to fly southwest to intercept the localizer . Klotz acknowledged this . The flight crew selected the ILS . At 21 : 33 : 04 , the controller informed the flight that they were fifteen miles from the outer marker and cleared them for an ILS approach on runway 22L . Klotz acknowledged . That was the final radio transmission from Flight 52 . Caviedes asked if the ILS had been selected . Klotz replied , " It is ready on two " at 21 : 33 : 23 . One second later , the CVR stopped recording . At 21 : 34 : 00 , the controller tried to radio the flight , asking , " You have enough fuel to make it to the airport ? " There was no response .

The NTSB report estimates that around this time , the flight crashed . The aircraft descended without power , clipped several trees and posts , and crashed onto a hill with a 24 ° slope in Cove Neck , New York . The fuselage partially fragmented into three distinct pieces . The cockpit and forward cabin separated from the rest of the airframe and were hurled over the crest of the hill , coming to a stop 90 feet (27 m) from the rest of the wreckage . The rest of the fuselage stopped within 25 feet (7 @.@ 6 m) after impact . The main fuselage came to rest on the upslope of the hill , facing south , with the forward end extending over the crest of the hill . The right side of the forward end of the fuselage fractured a residential wooden deck .

= = Recovery = =

= = = First response = = =

Residents of Cove Neck immediately called emergency services . Jeff Race , a paramedic and member of New York City 's Emergency Medical Service who lived half a mile from the crash site was the first rescuer on site . He reported that most passengers were still strapped in their seats and the survivors were crying out for help . Survivors later commented that it took about half an hour for rescue teams to arrive . Initial reports to emergency services reported that a much larger Boeing 747 had crashed . Fire Chief Thomas Reardon of Oyster Bay Fire Company No. 1 was in charge of the initial effort to remove people from the wreckage . In his first call to the Nassau County Fire Commission dispatch , he requested all the help available . Thirty @-@ seven fire and ambulance companies , as well as more than seven hundred Nassau County police officers arrived to help . Other companies that were not called showed up voluntarily to assist . The swell of support created major problems for extricating survivors .

The crash was only accessible to vehicles via a single residential street . With the surge of rescue personnel who converged on the area , the roads leading to the site soon became choked with traffic . Emergency vehicle drivers abandoned their vehicles counter to established policy in the course of the rescue efforts . This prevented other vehicles from being able to access the crash area . The road was so impassible , many rescue workers left their vehicles miles away and made it to the scene on foot . Fog also grounded rescue helicopters for two hours . As a result , many critically injured survivors were not evacuated until 23 : 30 . Eventually , four helicopters from the New York City Police Aviation Unit evacuated 21 people from the crash site . There were also major problems with communication by rescuers . Radio frequencies became overloaded and authorities on site

were unable to make command decisions in some cases . The head of surgery of the Nassau County Medical Center was present at the scene but unable to direct patients to the best locations because many rescuers were radioing the center itself to get advice on where they should send the survivors . Medical professionals on site reported that some hospitals received the most up @-@ to @-@ date information by watching the news coverage . Despite these problems , however , only three of the passengers found alive died of their injuries .

Rescue workers set up two triage areas on the lawn of John and Katy McEnroe , the parents of John McEnroe , and known as the Edward H. Swan House . A morgue and command post was also set up on their property , which was 500 feet (150 m) from the crash site . At least six bodies were found outside the fuselage . Firefighters and medics erected ladders next to the airframe wreckage and led passengers down on stretchers and to the triage sites . At these sites , doctors tagged the critically injured patients for immediate evacuation . At least 30 bodies were gathered on the makeshift morgue at the McEnroe property by 03 : 00 the following morning . Passenger Astrid Lopez was initially believed to be dead due to her severe injuries , and officials placed her body in the morgue . A rescuer soon heard her moans and she was sent to a hospital . Some medical responders were turned away from the scene by police to help ease the congestion . By 03 : 30 , all the survivors had been evacuated to hospitals . At least one emergency responder was hospitalized as a result of the rescue efforts . Throughout the evacuation , priests were on site , offering encouragement , assisting medical personnel , and performing last rites . Many local New York residents showed up at hospitals with food , blankets , or to volunteer as Spanish interpreters . The New York Blood Center reported collecting 2 @,@ 000 units of blood , almost triple their goal .

= = = Casualties = = =

Of the 158 people on board , 73 died as a result of the crash . The lead flight attendant was the only crew member to survive . Of the surviving passengers , 72 adults and children over three years old sustained serious injuries , while two sustained minor injuries . Of the 11 infants , two sustained minor injuries , eight were seriously injured , and one , Kenneth Fernando Martinez , the four @-@ month @-@ old son of Gloria L. Martinez , died . The surviving steward testified that there had been no communication from the cockpit as to the unfolding situation and , thus , no warning in the end to assume brace positions . The NTSB report held that , had passengers been warned ahead of time to brace for impact , the severity of some injuries might have been avoided .

The most common serious injuries were multiple lower leg fractures and dislocations , spinal fractures , hip fractures , head injuries , and multiple lacerations and contusions . The NTSB investigators found severe damage on the floor of the cabin , resulting in many of the passengers ' seats to fracture where the legs met the floor track . This fracturing permitted many of the seats to come loose during the impact and aggravated the passengers ' injuries . The report posits that the passengers ' legs hit the lower seat frames in front of them . At the same time , the seats collapsed and twisted downward and to the left , likely causing hip and spinal fractures . As the impact progressed , the seats , now separated , flung passengers forward into each other as well as into other wreckage , causing head injuries and lacerations . Passengers holding onto infants reported being unable to either prevent their children from being ejected from their grasp in the impact or locate their children in the darkness afterward . The NTSB held that , had the children been in Federal Aviation Administration (FAA) -approved child seats , many injuries might have been mitigated . Rescuers remarked that some infants were found smiling or seemingly unharmed . The NTSB was unable to accurately chart where individual passengers were seated because Avianca only assigned seats to a few passengers and many who were assigned reported moving after takeoff .

The cockpit was severely damaged in the impact . It struck an oak tree which penetrated the area occupied by Klotz and Moyano . All the seats occupied by the flight crew were found outside the cockpit . Neither of the pilots ' seats had shoulder straps as were required by United States domestic passenger flights . At least one flight crew member was airlifted to Nassau County Medical Center . The NTSB report states that all of the flight crew " died from blunt force head and upper torso

trauma . " Five flight attendants also died from blunt force trauma to the limbs , abdomen , chest , and head .

= = Investigation = =

The NTSB commenced an investigation , which began shortly after the crash and concluded with the issuance of its final report on April 30 , 1991 . Because it involved a Colombian airline , Colombia 's Departamento Administrativo de Aeronáutica Civil (DAAC) also conducted an investigation into the accident .

A survey of the wreckage revealed that the tail was mostly intact and all control surfaces were connected to the pilots ' controls . Both wings had been severely damaged on impact and fractured into several pieces . The flaps and slats were found in their extended positions , with the flaps set at 14 ° . As with the tail , all wing control surfaces were found to have been connected to the pilots ' controls . There was no evidence of any control surface failure prior to the crash . Investigators realized that none of the four engines had been under power at the time of impact . As the first responders worked to rescue the passengers , investigators recovered the flight data recorder (FDR) and cockpit voice recorder (CVR) from the wreckage and brought them to the NTSB laboratory in Washington , D.C. The FDR was an older oscillographic foil model . In 1989 , the FAA began requiring domestic carriers to change to digital flight recorders to minimize the errors that foil models produced . This requirement did not apply to international carriers . The Avianca FDR foil was found to have been taped down at some point prior to the flight and , thus , was inoperative . The NTSB recommended in the Avianca report that the FAA take an " active role in ensuring upgraded international standards " for flight recorders . The CVR and ATC recordings became vital sources of evidence for the crash . The investigators also looked at meteorological factors that led to flight problems .

The NTSB investigators found that the weather data that the flight crew received in Medellín was nine to ten hours old . Additionally , the alternate airport on the flight plan , Logan International Airport in Boston , was forecast to be below the safe minimums for landing . The NTSB also stated that the flight crew should have been more aware of these problems and cited these deficiencies as evidence of inadequacies in the dispatch of the airplane . The NTSB also found no evidence that the flight crew ever requested weather information en route or communicated with Avianca dispatchers about their fuel status and intents as other flights did . Flight 52 did not make contact with FAA flight service stations or flight watch en route , and the NTSB was unable to determine why . The flight did not express any concern to ATC about their fuel situation during the first two holding patterns that the flight made . The first indication of worry came at 20 : 09 when the flight crew inquired about delays at Boston . The NTSB posited that the flight crew might have become confused about the " expect further clearance " (EFC) times they were given . This confusion may have been the reason that the flight continued to hold , burning up its reserve fuel to the point where it could no longer divert to Boston .

Investigators also cited the flight engineer for failing to calculate the " minimum approach / landing fuel quantity . " The report references the 360 ° turn that the flight was ordered to make at 20 : 54 as evidence that the crew should have known that they were being treated routinely and not given any emergency priority . Instead , the CVR revealed that the flight crew was convinced that they were being given priority . Additionally , the NTSB criticized the first officer for failing to use the word " emergency " as the captain had insisted he do . Compounded with the apparent inability of the captain to hear or understand the radio communications , the NTSB called the situation a " total breakdown in communications by the flightcrew . " Summarizing , the investigators cited " the flightcrew 's failure to notify ATC of their fuel situation while holding at CAMRN in order to ensure arrival at the approach fix with an adequate approach minimum fuel level and a breakdown in communications between the flightcrew and ATC , and among the flight crewmembers " as the two main factors that led to the crash .

Investigators asserted that the performances by the traffic controllers were proper and that the misunderstandings that were made were reasonable . None of the controllers involved considered

the word " priority " or the assertions by the flight crew that they were running out of fuel to be indicative of an emergency . The report provided various examples of the flight crew failing to convey the danger of their situation , even moments before the engines flamed out . Although the investigators felt that the communications from the ATC personnel were " proper , " the NTSB voiced concern over the controllers not placing significance on the word " priority . " At a public hearing , it was revealed by an unrelated pilot that the emphasis on the word " priority " by the Avianca crew might have come from training and bulletins from Boeing that used the word in relation to fuel emergencies . Avianca also used the word " priority " in its publications on low @-@ fuel status procedures . ATC controllers testified that " Mayday " , " pan @-@ pan " , and " emergency " were the three phrases that they would respond to immediately . The report also stated that " priority " was defined in the ATC Handbook as " precedence , established by order of urgency or importance . " As a result of this linguistic confusion , the NTSB recommended that the FAA work with the International Civil Aviation Organization (ICAO) to develop a standard glossary of clearly defined terms as well as notify foreign carriers that they must be knowledgeable of ATC rules and procedures .

The NTSB also cited the pilot 's inability to land on his first attempt as contributing to the crash . The investigation revealed that wind shear was a significant factor in the failed approach but that other factors probably contributed . The report cited recurring maintenance problems with the airplane 's autopilot as a possible factor . If the pilot had been forced to fly manually from Medellín , investigators believed this might have added to exhaustion and stress in the cockpit . For evidence , the NTSB pointed to nine instances where the captain asked the copilot to repeat the ATC instructions or to confirm the aircraft configuration . This stress , investigators asserted , would have degraded the flight crew 's performance on final approach . Investigators also looked at the traffic management by the Central Flow Control Facility (CFCF) . The CFCF , in communication with NY TRACON , established an airport acceptance rate of 28 aircraft landings per hour that morning . Later , a CFCF supervisor contacted NY TRACON and requested a higher rate of 33 landings per hour . This acceptance rate , investigators concluded , was based on inaccurate weather conditions . The report concluded that these traffic management problems contributed to the conditions that led to the accident but did not lead directly to the accident .

= = = Controversy = = =

The probable cause of the crash was determined by the NTSB to be " the failure of the flightcrew to adequately manage the airplane 's fuel load , and their failure to communicate an emergency fuel situation to air traffic control before fuel exhaustion occurred . " However , two NTSB members filed dissenting opinions in the report . Jim Burnett voted against the adoption of the report because he felt it did not adequately address the failures of the air traffic controllers or the FAA 's role in allowing more traffic than JFK could handle . Christopher Hart filed a partial dissent because he disagreed with the report 's findings of a lack of standardized terminology . In his dissent , he wrote that " we do have standardized understandable terminology ... that would have adequately communicated the existence of a dangerous situation , and the problem was that the pilots failed to use this terminology with the controllers . "

Colombia 's DAAC investigators also disagreed with some of the NTSB 's findings . In a comment on a draft of the NTSB 's report , the DAAC recommended that the NTSB place some responsibility on the controllers for their " inadequate handling " of the Avianca flight . The DAAC also recommended that the NTSB encourage modifying the EFC system , and that FAA regulations should require an " active flight following system " to assist flight crews in evaluating weather and traffic delays .

= = Aftermath = =

Two male passengers were arrested at North Shore Hospital after a nurse informed police that 46 @-@ year @-@ old Antonio Zuluaga had swallowed containers filled with cocaine . Zuluaga , who

had a fractured spine , broken ribs and a dislocated hip , was the second passenger to be found in possession of cocaine packages , after doctors operating on Jose Figueroa on the day after the crash to stop internal bleeding had also discovered packets of cocaine.They pleaded guilty to second @-@ degree criminal possession of a controlled substance . Figueroa was sentenced to seven years to life in prison , and Zuluaga was sentenced to six years to life .

Many crash survivors suffered long recoveries from the physical and psychological traumas they endured . A month after the crash , an orderly caravan of around 1 @,@ 000 vehicles drove to JFK while some demonstrators laid wreaths in the international terminal lobby to protest the handling of the flight . Some survivors sued the FAA , accusing the agency of failing to ensure the flight 's safety . In July 1990 , Avianca offered $ 75 @,@ 000 to crash survivors and the relatives of those killed . The U.S. government eventually joined Avianca and reached a settlement estimated at over $ 200 million in damages to the victims .

The same summer , there were two notable fuel emergencies declared by Avianca flights . The first happened in June when a flight declared a " minimum fuel situation " and landed with only ten minutes worth of fuel left . The second happened in August when Avianca Flight 20 declared it had " only 15 minutes of fuel left . " There was confusion as to what the pilot meant , but controllers declared an emergency preemptively and cleared the plane to land immediately . It was later revealed that the flight had over two hours worth of fuel left .

= = = In popular culture = = =

The Discovery Channel Canada / National Geographic TV series Mayday (also called Air Crash Investigation or Air Emergency) featured the story of the disaster in a second season episode titled Missing Over New York . It was also featured on the MSNBC 's Why Planes Crash series , in an episode titled Human Error . The impact of cultural differences between the Colombian pilots and American air traffic controllers was discussed in Malcolm Gladwell 's book Outliers , which does not specifically mention Avianca 52 . Stock footage of the plane wreckage was utilized in the 2004 film , The Day After Tomorrow . Survivor Nestor Zarate also wrote a book about the flight , titled 20 minutos antes ... 20 años después (20 Minutes Before ... 20 Years Later) .