Aviation Investigation Final Report

Location:	Chicago, Illinois	**Incident Number:**	OPS06IA007
Date & Time:	March 23, 2006, 09:07 Local	**Registration:**	N309UA
Aircraft:	Boeing 737-300	**Aircraft Damage:**	None
Defining Event:		**Injuries:**	116 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

On March 23, 2006, at 0907 Central Standard Time, a runway incursion occurred between United Airlines (UAL) flight 604, a Boeing 737-300, and UAL1520, an A-320, at Chicago O'Hare International Airport (ORD) during daylight visual meteorological conditions. The north local controller cleared UAL604 for takeoff from runway 4L while UAL1520 was crossing the runway. The UAL604 co-pilot looked out the window and saw the A320 moving at a fast rate toward the runway, aborted the takeoff, and advised the controller that they were aborting their takeoff for the crossing traffic. The co-pilot stated that they did not get above taxi speed during their departure. Separation was lost with closest proximity of approximately 600 feet, the distance from approach end of runway 4L to taxiway H. AMASS did not activate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The probable cause of this incident was the ORD tower local controller's failure to provide sufficient separation between two aircraft departing intersecting runways. Contributing to the incident was the ORD local monitor's failure to monitor the situating and advise the local controller of the developing situation.

Findings

Occurrence #1: NEAR COLLISION BETWEEN AIRCRAFT
Phase of Operation: TAKEOFF - ABORTED

Findings
1. (C) CONTROL TOWER - IMPROPER

Factual Information

At the time of the incident, Plan X was in effect which means that aircraft are arriving runways 4R, 9R, and 9L and departing from runways 4L, 9L, 32R, and 32L intersection T10. The North Local controller was responsible for aircraft landing and departing runway 9L and departing from runways 4L and 32R. There were 3 controllers at the NLC position: north local controller (NLC), local monitor (LMN) and controller-in-charge (CIC). The LMN was responsible for monitoring the NLC frequency and watching runway intersections. Beginning approximately 90 seconds before UAL604 was instructed to hold on the runway until the incursion, the NLC was responsible for 11 aircraft.

At 1507:15, the NLC instructed UAL604 to "position and hold [runway] 4L". The pilot acknowledged.

At 1507:22, the NLC provided a departure sequence to American Airlines (AAL) flight 1425 that was acknowledged by the pilot. At 1507:31, the NLC issued departure instructions and cleared AAL1048 for takeoff on runway 9L that the pilot acknowledged. Eight seconds later, the NLC instructed Northwest Airlines (NWA) flight 117 to contact departure control; the pilot acknowledged.

At 1507:44, the NLC instructed UAL 1520 to taxi across runway 4L and hold short of taxiway J, the pilot acknowledged.

At 1507:59, the NLC cleared UAL604 for takeoff on runway 4L and instructed the pilot to turn right heading 090 after departure. The pilot acknowledged. Eight seconds later, the NLC instructed NWA1240 to "position and hold runway 4L" and the pilot acknowledged. The NLC then provided a departure sequence to American Eagle flight 51 (EGF51).

At 1508:18, the pilot of UAL604 advised the NLC that they were aborting takeoff runway 4L. The controller then cancelled the takeoff clearance and instructed the flight to hold in position.

The NLC stated in his interview that he typically turned over the flight progress strip of the departing aircraft when that aircraft is not able to depart as required by facility management. However, in this incident, he did not. He stated that he was sequencing other flight progress strips at that time and "forgot" to turn it over. The LMN was not monitoring the frequency as required.

2. ATIS "Kilo" was broadcast as follows: O'Hare International Airport information Kilo, 1456 zulu wind 070 at 4 knots, visibility 10 miles, ceiling 2,600 broken, temperature four, dew point minus three, altimeter 30.25. Arrivals expect vectors ILS runway 4R approach, ILS

runway 9L approach, ILS runway 9R approach. Parallel approaches in use. Read back all runway hold short instructions. Departures expect runway 4L, 9L, 32L, 32R, and 32L from taxiway T10 8,800 feet available. Notice to Airman: Runway 18/36 closed, lighted crane 155 feet above ground level 1.5 miles east of runway. Pilots use cautious for bird activity in the vicinity of the airport. When ready to taxi contact ground metering on frequency 121.67. Advise on initial contact you have information Kilo.

Pilot Information

Certificate:	**Age:**	
Airplane Rating(s):	**Seat Occupied:**	
Other Aircraft Rating(s):	**Restraint Used:**	
Instrument Rating(s):	**Second Pilot Present:**	
Instructor Rating(s):	**Toxicology Performed:**	No
Medical Certification:	**Last FAA Medical Exam:**	
Occupational Pilot:	**Last Flight Review or Equivalent:**	
Flight Time:		

Co-pilot Information

Certificate:	**Age:**	
Airplane Rating(s):	**Seat Occupied:**	
Other Aircraft Rating(s):	**Restraint Used:**	
Instrument Rating(s):	**Second Pilot Present:**	
Instructor Rating(s):	**Toxicology Performed:**	No
Medical Certification:	**Last FAA Medical Exam:**	
Occupational Pilot:	**Last Flight Review or Equivalent:**	
Flight Time:		

Aircraft and Owner/Operator Information

Aircraft Make:	Boeing	**Registration:**	N309UA
Model/Series:	737-300	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:		**Serial Number:**	
Landing Gear Type:		**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	
Airframe Total Time:		**Engine Manufacturer:**	
ELT:		**Engine Model/Series:**	
Registered Owner:		**Rated Power:**	
Operator:	UNITED AIR LINES INC	**Operating Certificate(s) Held:**	Flag carrier (121)
Operator Does Business As:		**Operator Designator Code:**	UALA

Meteorological Information and Flight Plan

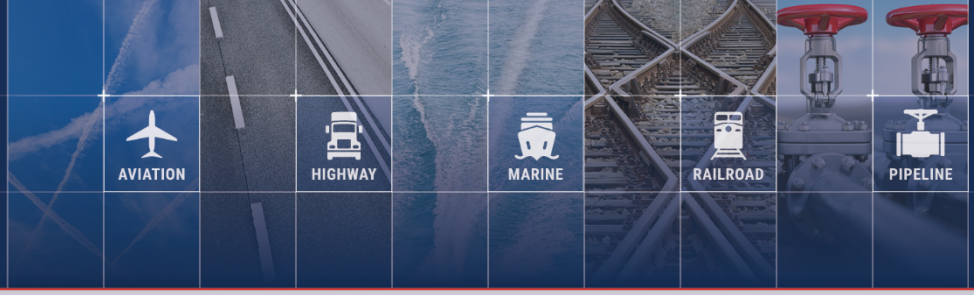
Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	
Observation Facility, Elevation:	KORD	**Distance from Accident Site:**	
Observation Time:	08:56 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 2600 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	70°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	4°C / -3°C
Precipitation and Obscuration:			
Departure Point:	Chicago, IL (KORD)	**Type of Flight Plan Filed:**	IFR
Destination:	Washington, DC (KDCA)	**Type of Clearance:**	
Departure Time:		**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	5 None	**Aircraft Damage:**	None
Passenger Injuries:	111 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	116 None	**Latitude, Longitude:**	42.030773,-87.900802(est)

Administrative Information

Investigator In Charge (IIC):	Hall, Hilton
Additional Participating Persons:	
Original Publish Date:	November 30, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this incident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63386



Aviation Investigation Final Report

Location:	Chicago, Illinois	**Incident Number:**	OPS06IA007
Date & Time:	March 23, 2006, 09:07 Local	**Registration:**	N493UA
Aircraft:	Airbus Industrie 320-200	**Aircraft Damage:**	None
Defining Event:		**Injuries:**	5 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

On March 23, 2006, at 0907 Central Standard Time, a runway incursion occurred between United Airlines (UAL) flight 604, a Boeing 737-300, and UAL1520, an A-320, at Chicago O'Hare International Airport (ORD) during daylight visual meteorological conditions. The north local controller cleared UAL604 for takeoff from runway 4L while UAL1520 was crossing the runway. The UAL604 co-pilot looked out the window and saw the A320 moving at a fast rate toward the runway, aborted the takeoff, and advised the controller that they were aborting their takeoff for the crossing traffic. The co-pilot stated that they did not get above taxi speed during their departure. Separation was lost with closest proximity of approximately 600 feet, the distance from approach end of runway 4L to taxiway H. AMASS did not activate.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: The probable cause of this incident was the ORD tower local controller's failure to provide sufficient separation between two aircraft departing intersecting runways. Contributing to the incident was the ORD local monitor's failure to monitor the situating and advise the local controller of the developing situation.

Findings

Occurrence #1: NEAR COLLISION BETWEEN AIRCRAFT
Phase of Operation: TAXI - TO TAKEOFF

Findings
1. (C) CONTROL TOWER - IMPROPER

Factual Information

1. Sequence of Events

At the time of the incident, Plan X was in effect which means that aircraft are arriving runways 4R, 9R, and 9L and departing from runways 4L, 9L, 32R, and 32L intersection T10. The North Local controller was responsible for aircraft landing and departing runway 9L and departing from runways 4L and 32R. There were 3 controllers at the NLC position: north local controller (NLC), local monitor (LMN) and controller-in-charge (CIC). The LMN was responsible for monitoring the NLC frequency and watching runway intersections. Beginning approximately 90 seconds before UAL604 was instructed to hold on the runway until the incursion, the NLC was responsible for 11 aircraft.

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At 1508:18, the pilot of UAL604 advised the NLC that they were aborting takeoff runway 4L. The controller then cancelled the takeoff clearance and instructed the flight to hold in position.

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2. Weather Information

ATIS "Kilo" was broadcast as follows: O'Hare International Airport information Kilo, 1456 zulu wind 070 at 4 knots, visibility 10 miles, ceiling 2,600 broken, temperature four, dew point minus three, altimeter 30.25. Arrivals expect vectors ILS runway 4R approach, ILS runway 9L approach, ILS runway 9R approach. Parallel approaches in use. Read back all runway hold short instructions. Departures expect runway 4L, 9L, 32L, 32R, and 32L from taxiway T10 8,800 feet available. Notice to Airman: Runway 18/36 closed, lighted crane 155 feet above ground level 1.5 miles east of runway. Pilots use cautious for bird activity in the vicinity of the airport. When ready to taxi contact ground metering on frequency 121.67. Advise on initial contact you have information Kilo.

Pilot Information

Certificate:	**Age:**	
Airplane Rating(s):	**Seat Occupied:**	
Other Aircraft Rating(s):	**Restraint Used:**	
Instrument Rating(s):	**Second Pilot Present:**	
Instructor Rating(s):	**Toxicology Performed:**	No
Medical Certification:	**Last FAA Medical Exam:**	
Occupational Pilot:	**Last Flight Review or Equivalent:**	
Flight Time:		

Co-pilot Information

Certificate:	**Age:**	
Airplane Rating(s):	**Seat Occupied:**	
Other Aircraft Rating(s):	**Restraint Used:**	
Instrument Rating(s):	**Second Pilot Present:**	
Instructor Rating(s):	**Toxicology Performed:**	No
Medical Certification:	**Last FAA Medical Exam:**	
Occupational Pilot:	**Last Flight Review or Equivalent:**	
Flight Time:		

Aircraft and Owner/Operator Information

Aircraft Make:	Airbus Industrie	**Registration:**	N493UA
Model/Series:	320-200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	
Airworthiness Certificate:		**Serial Number:**	
Landing Gear Type:		**Seats:**	
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	
Airframe Total Time:		**Engine Manufacturer:**	
ELT:		**Engine Model/Series:**	
Registered Owner:		**Rated Power:**	
Operator:	UNITED AIR LINES INC	**Operating Certificate(s) Held:**	Flag carrier (121)
Operator Does Business As:		**Operator Designator Code:**	UALA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	
Observation Facility, Elevation:	KORD	**Distance from Accident Site:**	
Observation Time:	08:56 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:		**Visibility**	10 miles
Lowest Ceiling:	Broken / 2600 ft AGL	**Visibility (RVR):**	
Wind Speed/Gusts:	4 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	70°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30.25 inches Hg	**Temperature/Dew Point:**	4°C / -3°C
Precipitation and Obscuration:			
Departure Point:	Chicago, IL (KORD)	**Type of Flight Plan Filed:**	IFR
Destination:	Orlando, FL (KMCO)	**Type of Clearance:**	
Departure Time:		**Type of Airspace:**	

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	None
Passenger Injuries:	3 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	5 None	**Latitude, Longitude:**	42.030773,-87.900802(est)

Administrative Information

Investigator In Charge (IIC):	Hall, Hilton
Additional Participating Persons:	
Original Publish Date:	November 30, 2007
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this incident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=63386