

NATIONAL TRANSPORTATION SAFETY BOARD

Investigative Hearing

US Army PAT25, Sikorsky UH-60L and

PSA Airlines flight 5342

MHI RJ Aviation CL-600-2C10 (CRJ700), N709PS

Midair Collision in Washington, DC

January 29, 2025

Docket No.	SA-544
EXHIBIT	
23-A	

**Cockpit Voice Recorders and Air Traffic
Control Combined Transcript Factual
Report**
(34 Pages)

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



DCA25MA108

COCKPIT VOICE RECORDERS AND AIR TRAFFIC CONTROL COMBINED TRANSCRIPT

Group Chairman's Factual Report
July 14, 2025

WARNING

The reader of this report is cautioned that the transcript of a cockpit voice recorder audio recording is not a precise science but is the best product possible from a National Transportation Safety Board group investigative effort. The transcript or parts thereof, if taken out of context, could be misleading. The transcript should be viewed as an accident investigation tool to be used in conjunction with other evidence gathered during the investigation. Conclusions or interpretations should not be made using the transcript as the sole source of information.

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A. ACCIDENT

Location: Washington, DC
Date: January 29, 2025
Time: 20:48 eastern standard time (EST)
Helicopter: Sikorsky UH-60L, US Army, Tail No. 00-26860, Priority Air Transport 25, callsign PAT-25
Airplane: Mitsubishi Heavy Industries (MHI) Regional Jet (RJ) Aviation (formerly Bombardier) CL-600-2C10 (CRJ700), N709PS, PSA Airlines flight 5342 (JIA5342), callsign Bluestreak 5342

B. RECORDED AUDIO GROUPS

Transcripts were separately prepared from the UH-60L helicopter cockpit voice recorder (CVR), the CRJ airplane CVR, and DCA Air Traffic Control Tower Local Control (Washington Tower) FAA certified recordings. For additional details about each recording and its transcription, see the Cockpit Voice Recorder Factual Report for each aircraft and the Air Traffic Control Communications Factual Report, each available in NTSB Public Docket for this case.

Helicopter CVR Report: Cockpit Voice Recorder (Helicopter) Factual Report
Helicopter CVR Group Chair: Charles Cates
Mechanical Engineer/Recorder Specialist
National Transportation Safety Board (NTSB)

Airplane CVR Report: Cockpit Voice Recorder (Airplane) Factual Report
Airplane CVR Group Chair: Olivia Fowler
Mechanical Engineer/Recorder Specialist
National Transportation Safety Board (NTSB)

ATC Recording Report: Air Traffic Control Communications Factual Report
ATC Recording Specialist: Charles Cates
Mechanical Engineer/Recorder Specialist
National Transportation Safety Board (NTSB)

C. COMBINED TRANSCRIPT

A partial combined transcript was generated to more clearly show how the three recordings aligned and which radio communications were audible to each crew in the minutes leading up to the collision.

1.0 Description of Combined Transcript

The combined transcript from the helicopter and Washington Tower began at 20:30:18 EST when the helicopter attempted to check in with Washington Tower. The transcript from the airplane began at 20:43:06 EST when the airplane crew checked in with Washington Tower.

The transcript is formatted in three columns such that the UH-60L helicopter CVR transcript is on the left (labeled PAT-25 (Helicopter) CVR), the Washington Tower recording transcript is in the center (labeled DCA Tower Recording), and the CRJ airplane CVR transcript is on the right (labeled JIA5342 (Airplane) CVR).

PAT-25 (Helicopter) CVR	DCA Tower Recording	JIA5342 (Airplane) CVR
All radio transmissions and all internal communications and sounds recorded on the CVR.	Radio transmissions sent from and received by the DCA Tower local controller.	All radio transmissions and all internal communications and sounds recorded on the CVR.

The combined transcript illustrates which radio transmissions were audible to each entity. Helicopters and fixed-wing aircraft were communicating with Washington Tower on different frequencies at the time of the accident, so transmissions made from helicopters were not audible to fixed-wing aircraft, and transmissions made from fixed-wing aircraft were not audible to helicopters. However, Washington Tower transmissions were transmitted on both frequencies and were audible to both helicopters and fixed-wing aircraft. Occasionally multiple entities attempted to transmit simultaneously, resulting in interrupted or “stepped on” transmissions.

Common air traffic control transmissions audible to others on frequency are shown on the same line and outlined.

Note, crew internal communications frequently overlapped with radio transmissions, even though they appear on different lines in the transcript.

1.1 Transcription Process

A CVR group consists of representatives from parties to the investigation convening at the NTSB Vehicle Recorder laboratory to review the CVR audio and produce a factual transcript of recorded words and sounds. If the group cannot understand or reach a consensus about a word or sound, it is noted as an unintelligible word or a questionable insertion.

The airplane and helicopter CVRs were transcribed by separate, independent NTSB groups. Phrases may differ between transcripts for several reasons, including:

- Transmissions being “stepped on” by other radio traffic.
- Internal conversations between the crew, obscuring radio calls.
- Static or poor-quality sound produced by the radio.
- Alerts or other ambient sounds in the flight deck blocking radio calls.
- Groups interpreting words differently during the transcription process.

1.2 Timing and Correlation

The timing on each CVR transcript was established using a combination of FDR data, ADS-B Data, and radio transmissions. For more information on the timing of each transcript see the individual transcript reports in the docket.

The ATC recording file included a time code which was used to align the transcript with the CVR transcripts. Due to the manual transcription process, the beginning time of some transmissions may vary by a few tenths of a second. There are also cases where the first words of a transmission were not audible on the receiving side, leading to a difference in the timing of the transmission.

All times were offset to reflect the local eastern standard time (EST) of the accident. Times are given in EST for the remainder of this report.

Submitted by:

Charles Cates
Mechanical Engineer/Recorder Specialist

Olivia Fowler
Mechanical Engineer/Recorder Specialist

APPENDIX A. COMBINED TRANSCRIPT

The following is a transcript of communications transmitted on the DCA Air Traffic Control Tower frequencies and conversations internal to the aircraft involved in the accident on January 29, 2025, in Washington, DC.

LEGEND	
AAL1630	Radio transmission from American 1630
AAL1733	Radio transmission from American 1733
AAL3130	Radio transmission from American 3130
AAL472	Radio transmission from American 472
ARCR1	Radio transmission from helicopter callsign AirCare 1
ASH6149	Radio transmission from AirShuttle 6149
BLJK1	Radio transmission from helicopter callsign Blackjack 1
CAM	Voice or sound heard on the cockpit area microphone on JIA5342
DAL832	Radio transmission from Delta 832
DCA-LC¹	Radio transmission from DCA Air Traffic Control Tower Local Control, as captured by ATC recording
EGPWS	Enhanced ground proximity warning system on JIA5342
ENY3771	Radio transmission from Envoy 3771
FPS	Aural alert from the Flight Path Stabilization System on PAT-25
HOT	Flight crew audio panel voice or sound source on JIA5342
INT	Flight crew intercom audio panel voice or sound source on PAT-25
JBU2355	Radio transmission from JetBlue 2355
JIA5025	Radio transmission from Bluestreak 5025
JIA5038	Radio transmission from Bluestreak 5038
JIA5057	Radio transmission from Bluestreak 5057
JIA5125	Radio transmission from Bluestreak 5125
JIA5164	Radio transmission from Bluestreak 5164
JIA5170	Radio transmission from Bluestreak 5170
JIA5247	Radio transmission from Bluestreak 5247
JIA5269	Radio transmission from Bluestreak 5269
JIA5286	Radio transmission from Bluestreak 5286
JIA5305	Radio transmission from Bluestreak 5305
JIA5307	Radio transmission from Bluestreak 5307
JIA5342	Radio transmission from Bluestreak 5342 (accident airplane)

¹ DCA-LC and TWR-A attributions refer to the same individual. DCA-LC denotes the phrases as transmitted from the tower. TWR-A denotes the phrases as heard by the CVR on each aircraft.

JIA5608	Radio transmission from Bluestreak 5608
JIA5673	Radio transmission from Bluestreak 5673
JZA789	Radio transmission from Jazz 789
MUSL12	Radio transmission from helicopter callsign Muscle 12
MUSL13	Radio transmission from helicopter callsign Muscle 13
MUSL7	Radio transmission from helicopter callsign Muscle 7
PAT25	Radio transmission from helicopter callsign PAT-25 (accident helicopter)
RDO	Radio transmission made by flight crew on PAT-25 or JIA5342, as captured by the CVR on each aircraft
RPA5752	Radio transmission from Brickyard 5752
SKW5800	Radio transmission from Skywest 5800
TCAS	Traffic Alert and Collision Avoidance System on JIA5342
TWR-A²	Radio transmission from DCA Air Traffic Control Tower Local Controller, as received by PAT-25 and JIA5342
UAL1531	Radio transmission from United 1531
UAL2472	Radio transmission from United 2472
-1	Voice identified as the instructor pilot on PAT-25 or the Captain on JIA5342
-2	Voice identified as the pilot being evaluated on PAT-25 or the First Officer on JIA5342
-3	Voice identified as the helicopter crew chief on PAT-25
*	Unintelligible word
#	Expletive
@	Non-pertinent word
()	Questionable insertion
[]	Editorial insertion

Note 1: Times are expressed in EST.

Note 2: Words shown with excess vowels, letters, or drawn out syllables are a phonetic representation of the words as spoken.

Note 3: Radio transmissions that are noted as broken have periods of no audio or radio static during the transmission. Unintelligible words in radio transmissions that are not noted as broken are generally due to poor radio reception, crew conversation, or other noise preventing understanding.

² DCA-LC and TWR-A attributions refer to the same individual. DCA-LC denotes the phrases as transmitted from the tower. TWR-A denotes the phrases as heard by the CVR on each aircraft.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:30:18.0	START OF COMBINED TRANSCRIPT				
		20:30:18.0 DCA-LC	thank you Bluestreak fifty six seventy three winds are three two zero at one six gusts two five traffic on runway one will hold short of your intersection runway three three cleared for takeoff.		
20:30:19.1	RDO-2 Washington Tower PAT two five U-H sixty off of Montgomery requesting flight following back to Davison.				
20:30:27.2	INT-2 wow not flight following *.				
		20:30:27.6 JIA5673	cleared for takeoff runway three three Bluestreak fifty six seventy three.		
20:30:28.1	INT-1 ha.				
20:30:33.7	INT-2 hopefully they didn't hear that but they probably did. [sound of quick laugh]				
20:30:41.5	INT-1 they just said uh we'll ignore that.				
20:30:43.7	INT-2 yeah. I don't hear any traffic on there though. we don't need to talk to them yet.				
20:30:49.4	TWR-A * in sight departing runway three three maintain-maintain visual separation.	20:30:48.6 DCA-LC	Skywest fifty eight hundred do you have the departed C-R-J in sight runway three three and can main— maintain visual separation.		
20:30:54.7	INT-2 we're below twenty five hundred.				
20:30:55.9	TWR-A * * *.	20:30:55.5 DCA-LC	actually disregard Skywest fifty eight hundred.		
20:30:56.6	INT-1 yup.				
		20:30:57.4 SKW5800	Skywest fifty eight hundred.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:30:58.4 TWR-A	disregard Southwest * * runway runway one.	20:30:58.4 DCA-LC	uh disregard so Southwest fifty eight hundred continue holding position runway— runway one.		
		20:31:02.3 SKW5800	hold position runway one Skywest fifty eight hundred.		
20:31:05.0 TWR-A	Bluestreak fifty six seventy three contact Potomac.	20:31:04.9 DCA-LC	Bluestreak fifty six seventy three contact Potomac Departure.		
		20:31:07.4 JIA5673	(to) departure Bluestreak fifty six seventy three.		
20:31:08.1 RDO	[sound similar to twelve mic clicks, consistent with operating PCL]				
20:31:10.9 INT-2	more lights.				
20:31:13.5 INT-1	I was trying to find it. this time for real.				
20:31:20.6 INT-2	* at the back right of the aircraft.				
20:31:24.9 INT-1	yeah there it is.				
20:31:25.4 TWR-A	Skywest * traffic on a two mile final for runway three three no delay runway one clear for takeoff.	20:31:25.4 DCA-LC	Skywest fifty eight hundred traffic on a two mile final for runway three three. no delay. runway one cleared for takeoff.		
20:31:28.0 INT-1	there's fifteen hundred feet.				
20:31:30.4 INT-2	okay. * altitude. fifteen hundred's good.				
		20:31:31.1 SKW5800	runway one cleared for takeoff no delay Skywest fifty eight hundred.		
20:31:33.9 TWR-A	Bluestreak fifty two sixty nine Washington Tower runway one line up and wait traffic landing three three.	20:31:33.8 DCA-LC	Bluestreak fifty two sixty nine Washington Tower runway one line up and wait traffic lands runway three three.		
		20:31:38.2 JIA5269	runway one line up and wait Bluestreak fifty two sixty nine.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:31:39.2 INT-2	alright number one needle. I'll try them again.				
20:31:42.2 INT-1	alright coming right on the number one.				
20:32:00.1 RDO-2	National Tower PAT two five requesting Cabin John route one route four Davison.	20:32:00.2 PAT25	National Tower PAT two five requesting Cabin John route one route four Davison. [loud static during transmission]		
20:32:09.2 TWR-A	PAT two five Washington Tower * two niner eight nine say position. [transmission broken]	20:32:09.2 DCA-LC	PAT two five Washington Tower National altimeter two niner eight nine uh say position.		
20:32:13.9 RDO-2	two niner eight nine PAT two five proceed as requested	20:32:14.0 PAT25	two niner eight nine PAT two five proceed as requested. [loud static during transmission]		
20:32:18.2 INT-2	alright. is he pretty muffled?				
20:32:19.0 TWR-A	Skywest fifty eight * contact departure.	20:32:18.9 DCA-LC	Skywest fifty eight hundred contact Potomac Departure.		
		20:32:21.3 SKW5800	over to departure Skywest fifty eight hundred.		
20:32:23.7 INT-1	yeah. I definitely didn't catch what he said. I'm glad you did.				
20:32:28.8 INT-2	I don't know if that last one * not. * before that though.				
20:32:38.9 INT-2	huh. volume's at eighteen its loud enough.				
20:32:44.4 TWR-A	Bluestreak fifty two sixty nine winds are three one direct one eight gust two six * * takeoff. [transmission broken]	20:32:44.4 DCA-LC	Bluestreak fifty two sixty nine winds are three one zero at one eight gusts two six runway one cleared for takeoff.		
20:32:49.5 INT-1	okay ma'am you can fly. sounds like you've communicated all that needs to be communicated.				
		20:32:50.5 JIA5269	runway one cleared for takeoff Bluestreak fifty two sixty nine.		
20:32:53.0 TWR-A	Bluestreak * *.	20:32:53.0 DCA-LC	Bluestreak fifty thirty eight left turn at sierra or at the end ground point seven.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:32:54.0 INT-2	okay sounds good. do you want me to fly?				
20:32:55.9 INT-1	sure.				
20:32:56.5 INT-2	alright I have flight controls.				
		20:32:57.2 JIA5038	uh left turn at the end and ground point seven Bluestreak fifty thirty eight.		
20:32:57.3 INT-1	you do have flight controls.				
20:32:58.1 INT-2	yup.				
		20:33:00.6 DCA-LC	Bluestreak five zero two five Washington Tower runway one line up and wait traffic lands runway three three.		
		20:33:06.6 JIA5025	* runway one line up and wait Bluestreak five zero two five.		
20:33:09.6 INT-1	right front's inside.				
		20:33:09.9 DCA-LC	Bluestreak fifty two eighty six Washington Tower runway one cleared to land traffic departs prior to your arrival.		
20:33:11.4 INT-2	rog.				
		20:33:14.5 JIA5286	cleared to land one Bluestreak fifty two eighty six.		
20:33:16.6 TWR-A	PAT two five Washington Tower IDENT.	20:33:16.5 DCA-LC	PAT two five Washington Tower IDENT.		
20:33:19.4 RDO-1	there goes PAT two five.	20:33:19.5 PAT25	there goes PAT two five. [loud static during transmission]		
20:33:21.6 INT-2	IDENT.				
		20:33:21.6 UAL1531	tower United fifteen thirty one's with you just inside KATRN.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:33:24.6 TWR-A	*** squawk ** gust two six runway one. [transmission broken]	20:33:24.6 DCA-LC	United fifteen thirty one Washington Tower winds are three one zero at one niner gusts two six. runway one cleared to land.		
		20:33:31.1 UAL1531	cleared to land runway one United fifteen thirty one.		
20:33:33.4 TWR-A	PAT ** north of the * say your request. [transmission broken]	20:33:33.3 DCA-LC	PAT two five radar contact six miles north of Bethesda at one thousand five hundred feet uh say again your request.		
20:33:41.1 RDO-1	PAT two five is looking for Cabin John route one to route four to Davison.	20:33:41.2 PAT25	PAT two five is looking for Cabin John route one route four to Davison. [loud static during transmission]		
20:33:46.7 TWR-A	PAT two five approved.	20:33:46.6 DCA-LC	PAT two five approved.		
20:33:48.1 RDO-1	approved two five.	20:33:48.1 DCA-LC	Bluestreak fifty two sixty nine contact Potomac Departure. [transmission made simultaneously to transmission from PAT-25]		
20:33:49.2 TWR-A	* contact departure.				
		20:33:50.9 JIA5269	over to departure see ya Bluestreak fifty two sixty nine.		
20:33:51.0 INT-2	*				
		20:33:52.8 DCA-LC	see ya.		
20:34:03.6 BLJK1	** zone two * route one heading boardwalk. [transmission broken]	20:34:02.6 BLJK1	National Tower Blackjack one approaching Woods Corner request zone three zone two split the p's route one Pentagon boardwalk.		
20:34:13.9 TWR-A	Blackjack one Washington Tower standby.	20:34:13.9 DCA-LC	Blackjack one Washington Tower standby.		
20:34:16.6 BLJK1	*	20:34:16.5 BLJK1	Blackjack one.		
20:34:17.8 INT-1	right front's back outside.				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:34:18.5 INT-2	com sounds really crappy.				
20:34:21.0 INT-2	do they have a U-H-F?				
20:34:21.7 TWR-A	* winds are three two ** mile final runway one *. [transmission broken]	20:34:21.3 DCA-LC	Bluestreak fifty twenty five winds are three two zero at one six gusts two six traffic three mile final runway one cleared for takeoff.		
20:34:24.3 INT-2	we got a master caution for the aux fuel.				
20:34:26.2 INT-1	roger. what'd you say right before that?				
		20:34:27.5 JIA5025	runway one cleared for takeoff Bluestreak fifty twenty five.		
20:34:30.0 INT-2	oh I was gonna do they have a U-H-F...or don't they?				
20:34:30.7 TWR-A	Bluestreak fifty * left uh left turn at sierra.	20:34:30.7 DCA-LC	Bluestreak fifty six zero eight left turn at uh left turn at sierra ground point seven.		
20:34:32.3 INT-1	um...				
		20:34:35.7 JIA5608	left sierra ground point seven good night Bluestreak fifty six oh eight.		
20:34:35.9 INT-2	he still sounds really crappy.				
20:34:37.3 INT-1	...they do but uh I don't know if they use it.				
20:34:37.8 TWR-A	Brickyard ** cross runway three three **. [transmission broken]	20:34:37.8 DCA-LC	good night. Brickyard forty seven fifty two Washington Tower runway three three line up and wait traffic lands runway one.		
20:34:39.2 INT-2	master caution for the aux fuel.				
20:34:42.8 INT-1	roger.				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:34:43.0 RPA5752	runway three three line up and wait Brickyard fifty seven fifty two.		
20:34:45.9 TWR-A	and Blackjack one you said you want to do zone three zone four?	20:34:45.9 DCA-LC	and Blackjack one you said you want to do zone three zone four?		
20:34:50.1 BLJK1	tower for Blackjack one request zone three zone two split the p's followed by route one * *. [transmission broken]	20:34:50.2 BLJK1	tower for Blackjack one request zone three zone two split the p's followed by route one pentagon track boardwalk. [transmission stepped on by simultaneous transmission from airplane frequency]		
		20:34:53.3 UAL1531	United fifteen thirty one we're slowin' to final. [transmission made during previous helicopter transmission]		
		20:35:00.4 UAL2472	tower twenty four seventy two uh Mount Ver— Vernon Visual one.		
20:35:03.9 TWR-A	Blackjack one approved report landing assured.	20:35:03.9 DCA-LC	Blackjack one approved report landing assured.		
20:35:07.0 BLJK1	Blackjack one approved.	20:35:07.0 BLJK1	Blackjack one approved.		
20:35:08.1 INT-1	split the p's what?				
20:35:09.4 TWR-A	Bluestreak fifty twenty five contact departure.	20:35:09.3 DCA-LC	Bluestreak fifty twenty five contact Potomac Departure.		
20:35:10.4 INT-2	*				
		20:35:11.3 JIA5025	departure good night Bluestreak fifty twenty five.		
20:35:12.3 INT-2	I thought they didn't want us doing that.				
20:35:13.4 TWR-A	good night. * * *.	20:35:13.4 DCA-LC	good night. * four seventy two Wash Tower you say you're on frequency.		
20:35:13.9 INT-1	Blackjack out here running amok.				
20:35:17.1 INT-2	[sound of laugh]				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:35:19.3 MUSL12	tower Muscle twelve request zone four.	20:35:19.4 MUSL12	tower Muscle twelve request zone four.		
		20:35:21.4 UAL2472	tower United twenty four seventy two on visual one.		
20:35:24.0 TWR-A	* Washington Tower winds are three two direct one six gust six traffic * arrival runway one *. [transmission broken]	20:35:23.9 DCA-LC	United twenty four seventy two Washington Tower winds are three two zero at one six gusts two six traffic departs prior to your arrival runway one cleared to land.		
		20:35:32.3 UAL2472	cleared to land United twenty four seventy two.		
20:35:34.3 TWR-A	Muscle twelve you said zone four?	20:35:34.3 DCA-LC	Muscle twelve you said zone four?		
20:35:35.7 MUSL12	a-firm.	20:35:35.8 MUSL12	a-firm.		
20:35:36.8 TWR-A	Muscle twelve zone four approved.	20:35:36.8 DCA-LC	Muscle twelve zone four approved.		
20:35:38.4 MUSL12	** twelve. [transmission broken]	20:35:38.5 MUSL12	copy. Muscle twelve.		
		20:35:52.1 JIA5247	tower Bluestreak fifty two forty seven is with you M-T-V one.		
		20:36:07.9 JIA5247	tower Bluestreak fifty two forty seven M-T-V one. [transmission broken]		
20:36:10.8 TWR-A	Bluestreak * forty seven Washington Tower winds are three two * *. [transmission broken]	20:36:10.8 DCA-LC	Bluestreak fifty two forty seven Washington Tower winds are three two zero at one six gusts two six runway one cleared to land traffic departs prior to you.		
		20:36:18.0 JIA5247	runway one cleared to land Bluestreak fifty two forty seven.		
20:36:22.3 TWR-A	Bluestreak * * turn left *. [transmission broken]	20:36:22.3 DCA-LC	Bluestreak fifty two (eighty) six if able turn left on mike ground point seven.		
		20:36:28.0 JIA5286	alright mike. ground point seven Bluestreak fifty two eighty s—.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:36:35.8 TWR-A	Brickyard * * hold position runway three three * one more arrival off runway one. [transmission broken]	20:36:35.8 DCA-LC	Brickyard fifty seven fifty two continue to hold position runway three three there'll be one more arrival off runway one.		
		20:36:41.2 RPA5752	alright we'll continue holding on runway three three Brickyard fifty seven fifty two.		
20:36:41.3 INT-1	just for your awareness I put them in two.				
20:36:44.5 INT-2	okay thanks.				
20:36:46.4 INT-1	see if it'll pick them up a little better.				
20:36:51.2 INT-1	you are five K from Cabin John I'm sure you have it in sight.				
20:36:56.4 INT-2	I believe that's it that bridge.				
20:36:58.4 INT-1	a-firm.				
20:37:18.9 TWR-A	Blackjack one do you have uh Muscle thirteen just two miles north of you one thousand one hundred feet? [sounds of rapid beeping consistent with conflict alert audible in background while tower is transmitting]	20:37:18.9 DCA-LC	Blackjack one do you have uh Muscle thirteen just two miles north of you one thousand one hundred feet? [sounds of rapid beeping consistent with conflict alert audible in background]		
20:37:26.1 TWR-A	Muscle thirteen traffic just (four) miles south of you Blackjack one. [transmission broken]	20:37:26.1 DCA-LC	Muscle thirteen traffic just * mile south of you is Blackjack one nine hundred feet.		
20:37:29.7 MUSL13	Muscle thirteen searching for traffic.	20:37:29.7 MUSL13	and Muscle thirteen looking for traffic. [loud static heard in background]		
20:37:31.1 BLJK1	visual sep.	20:37:31.4 BLJK1	maintain visual sep.		
20:37:32.2 TWR-A	visual separation approved Blackjack one.	20:37:32.2 DCA-LC	visual separation approved Blackjack one.		
20:37:34.0 TWR-A	* fifteen thirty one left turn november ground point seven.	20:37:33.9 DCA-LC	United fifteen thirty one left turn november ground point seven.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:37:37.0 UAL1531	left november ground point seven United fifteen thirty one.		
20:37:39.1 TWR-A	Brickyard fifty seven * winds are three two direct one three gust two six traffic on a two mile final for runway one no delay runway three three clear for takeoff.	20:37:39.1 DCA-LC	Brickyard fifty seven fifty two winds are three two zero at one three gusts two six traffic two mile final for runway one. no delay. runway three three cleared for takeoff.		
		20:37:47.2 RPA5752	runway three three and cleared for takeoff Brickyard fifty seven fifty two.		
20:37:50.2 TWR-A	and Muscle thirteen do you (see/have) that Blackjack in sight?	20:37:50.2 DCA-LC	and Muscle thirteen did you have Blackjack in sight?		
20:37:53.2 MUSL13	negative for Muscle thirteen still searching.	20:37:53.3 MUSL13	negative for Muscle thirteen still searching. [loud static in background]		
20:37:55.1 TWR-A	Blackjack correction Muscle thirteen traffic south * four miles south no factor * they're * eight hundred. [transmission broken]	20:37:55.1 DCA-LC	Blackjack correction Muscle thirteen traffic is now just one mile south of you no factor they're at currently at eight hundred feet.		
20:38:02.1 MUSL13	Muscle thirteen still searching for traffic we'll be heading northbound * *.	20:38:02.1 MUSL13	Muscle thirteen (searching/still looking) for traffic we'll be headed northbound towards College Park. [loud static in background]		
20:38:04.0 INT-1	left seat's inside.				
20:38:05.5 INT-2	say again? you're good I got your scan.				
20:38:05.6 TWR-A	*	20:38:05.4 DCA-LC	Muscle thirteen roger. [sounds of rapid beeping consistent with conflict alert audible in background]		
		20:38:10.2 JIA5170	tower Bluestreak fifty one seventy visual for runway three three.		
20:38:11.3 INT-2	thirteen at Cabin John.				
20:38:14.6 TWR-A	Bluestreak fifty one seventy Washington Tower winds are three two direct one three gust two six * *. [transmission broken]	20:38:14.6 DCA-LC	Bluestreak fifty one seventy Washington Tower winds are three two zero at one three gusts two six runway three three cleared to land.		
		20:38:20.2 JIA5170	alright three three cleared to land Bluestreak fifty one seventy.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:38:27.1 TWR-A	Brickyard fifty seven (fifty/sixty) two contact *.	20:38:27.1 DCA-LC	Brickyard fifty seven fifty two contact Potomac Departure.		
		20:38:29.8 RPA5752	departure Brickyard fifty seven fifty two see ya.		
20:38:31.8 TWR-A	see ya.	20:38:31.8 DCA-LC	see ya.		
20:38:35.8 INT-1	what's up ma'am where we going?				
20:38:38.1 INT-2	down the river. uh route one to four.				
20:38:42.7 INT-1	uh you just took a right turn which is gonna take us back to Great Falls and *.				
20:38:46.4 TWR-A	Bluestreak fifty one twenty five * aircraft four mile final runway one line up and wait.	20:38:46.4 DCA-LC	Bluestreak fifty one twenty five tower traffic four mile final for runway one line up and wait.		
20:38:47.2 INT-2	oh excuse me. okay * I should be headed...alright. coming to the...left.				
		20:38:50.4 JIA5125	line up and wait runway one Bluestreak fifty one twenty five.		
20:38:57.4 INT-3	clear left.				
20:38:58.2 INT-1	I mean I'm all game for it but we just gotta let the dude know.				
20:39:00.8 INT-2	haha no totally fair.				
20:39:04.6 INT-1	I am all game for goin to shake up some Great Falls at twenty feet tonight. we didn't brief it so we'll have to make a blood pact.				
20:39:10.5 INT-2	nope. right.				
20:39:11.4 TWR-A	* four seven two left turn at november one *. [transmission broken]	20:39:11.4 DCA-LC	United twenty four seventy two left turn at november one join juliet ground point seven.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:39:14.9 INT-1	alright a little right pedal. yeah that'll help it feel smoother.				
		20:39:16.2 UAL2472	* november one juliet ground point uh seven United twenty four seventy two.		
20:39:19.3 INT-2	let's see if it feels smoother.				
20:39:21.8 TWR-A	* keep your speed up * * right behind you. [transmission broken]	20:39:21.8 DCA-LC	if able just keep your speed up exiting the runway for traffic will roll right behind you.		
		20:39:25.4 UAL2472	roger keep speed up United twenty four seventy two.		
		20:39:27.1 DCA-LC	thank you.		
20:39:28.8 INT-2	I'm with it alright. *.				
20:39:30.3 TWR-A	Bluestreak fifty one seventy two winds are three two direct one two gust two six traffic's on a four mile final without delay runway one clear for takeoff.	20:39:30.3 DCA-LC	Bluestreak fifty one seventy two winds are three two zero at one two gusts two six traffic on a four mile final. without delay runway one cleared for takeoff. [addressing Bluestreak 5125]		
		20:39:38.0 JIA5125	all clear for takeoff Bluestreak fifty one twenty five.		
20:39:45.3 MUSL12	tower Muscle twelve request uh direct back to Andrews.	20:39:45.4 MUSL12	tower Muscle twelve request uh direct back to Andrews. [loud static in background]		
		20:39:49.7 JBU2355	Washington Tower JetBlue twenty three fifty five visual one.		
20:39:53.7 TWR-A	Muscle twelve approved.	20:39:53.5 DCA-LC	Muscle twelve approved.		
20:39:55.4 MUSL12	Muscle twelve. and request freq change.	20:39:55.4 MUSL12	Muscle twelve. and request freq change. [loud static in background]		
20:39:58.2 TWR-A	* stand by for *. [transmission broken]	20:39:58.2 DCA-LC	(you'll have to) standby for handoff.		
20:39:59.9 MUSL12	copy.	20:39:59.9 MUSL12	copy. [loud static in background]		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:40:06.2 INT-2	okay.				
20:40:09.0 INT-1	alright down to thirteen hundred feet we're already a little low.				
20:40:11.7 INT-2	alright. oh wow yeah okay.				
20:40:16.8 INT-1	thirteen hundred feet to Chain Bridge at Chain Bridge down to seven hundred of the feets.				
20:40:18.8 INT-2	okay. yeah.				
20:40:21.1 INT-1	so we'll just maintain here we're already at seven.				
		20:40:21.3 JBU2355	Washington Tower JetBlue twenty three fifty five Mount Vernon Visual one.		
20:40:23.6 INT-2	okay.				
20:40:25.1 TWR-A	Muscle twelve contact Andrews Tower one one eight point four.	20:40:25.0 DCA-LC	Muscle twelve contact Andrews Tower one one eight point four.		
20:40:28.1 MUSL12	Muscle twelve switching thank you.	20:40:28.1 MUSL12	Muscle twelve switching thank you. [loud static in background]		
20:40:29.9 TWR-A	you're welcome. Bluestreak fifty one seventy two contact departure.	20:40:29.9 DCA-LC	you're welcome. Bluestreak fifty one seventy two contact Potomac Departure. [addressing Bluestreak 5125]		
20:40:33.4 TWR-A	correction Bluestreak fifty one twenty five contact departure.	20:40:33.3 DCA-LC	correction Bluestreak fifty one twenty five contact Potomac Departure.		
		20:40:36.0 JIA5125	fifty one twenty five's goin' to departure see ya.		
20:40:38.0 TWR-A	*	20:40:38.0 DCA-LC	see ya.		
20:40:40.8 TWR-A	Bluestreak fifty one sixty four Washington Tower * circle runway three three * traffic on a eight mile final for runway one line up and wait. [transmission broken]	20:40:40.9 DCA-LC	Bluestreak fifty one sixty four Washington Tower traffic four out circling for runway three three additional traffic on a eight mile final for runway one line up and wait.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:40:48.5 JIA5164	runway one line up and wait Bluestreak fifty one sixty four.		
20:40:50.9 TWR-A	* twenty three fifty five Washington Tower winds are three two direct one four gust two six traffic * * arrivals runway one. [transmission broken]	20:40:50.9 DCA-LC	JetBlue twenty three fifty five Washington Tower winds are three two zero at one four gusts two six traffic departs prior to your arrival. runway one cleared to land.		
		20:40:58.8 JBU2355	cleared to land runway one JetBlue twenty three fifty five.		
20:41:07.0 TWR-A	Bluestreak fifty two forty seven when able left turn november * three three.	20:41:07.0 DCA-LC	Bluestreak fifty two four seven if able left turn november if not left turn three three.		
		20:41:11.4 JIA5247	uh left on november Bluestreak fifty two forty seven.		
20:41:14.5 TWR-A	Bluestreak * * thank you left turn november ground.	20:41:14.5 DCA-LC	Bluestreak fifty two four seven thank you left turn november ground point seven.		
		20:41:17.5 JIA5247	over to ground fifty two forty seven.		
20:41:19.8 TWR-A	Bluestreak fifty one sixty four winds are three two direct one five gust * traffic * for runway three three runway one clear for takeoff.	20:41:19.8 DCA-LC	Bluestreak fifty one sixty four winds are three two zero at one five gusts two six traffic three out for runway three three runway one cleared for takeoff.		
		20:41:26.9 JIA5164	runway one cleared for takeoff Bluestreak fifty one sixty four.		
20:41:35.1 INT-1	alright Blackjack's already cleared the p's so he's not going to be a factor for us.				
20:41:40.0 INT-2	yeah.				
20:41:42.8 INT-1	and what did we request one to four? so we'll head straight down the river.				
20:41:47.1 INT-2	one for Hains...and...four				
20:42:03.1 BLJK1	tower Blackjack one Memorial Bridge.	20:42:03.2 BLJK1	tower Blackjack one Memorial Bridge.		

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:42:06.4 INT-1	*				
20:42:08.7 TWR-A	Blackjack one roger.	20:42:08.7 DCA-LC	Blackjack one roger.		
20:42:12.5 INT-1	I did not hear his route...after...				
20:42:14.5 INT-2	the Memorial.				
20:42:15.4 INT-1	yeah.				
20:42:16.1 INT-2	I don't see him yet.				
20:42:18.0 INT-1	* he's gonna be down in the lights.				
20:42:19.4 TWR-A	Bluestreak fifty one sixty four contact departure.	20:42:19.4 DCA-LC	Bluestreak fifty one sixty four contact Potomac Departure		
		20:42:22.2 JIA5164	departure Bluestreak fifty sixty four.		
		20:42:31.2 JIA5307	tower Bluestreak fifty three zero seven Mount Vernon Visual to one.		
20:42:35.0 TWR-A	** hold * * *.	20:42:35.0 DCA-LC	Jazz seven eight nine tower pull to hold short runway one you'll be next for departure.		
20:42:36.5 INT-1	* the Chain Bridge at seven hundred feet. good. next'll be Key Bridge we'll be down to three hundred.				
		20:42:38.3 JZA789	pull up hold short one checker marks Jazz seven eight nine.		
20:42:42.3 TWR-A	Bluestreak fifty three zero seven Washington Tower winds are three two direct one seven gust two five can you take runway three three?	20:42:42.1 DCA-LC	Bluestreak fifty three zero seven Washington Tower winds are three two zero at one seven gusts two five can you take runway three three?		
20:42:43.2 INT-2	I see it. to the left.				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:42:48.0 JIA5307	unable tonight.		
20:42:49.3 TWR-A	Bluestreak fifty three zero seven roger runway one cleared to land traffic * prior to arrival.	20:42:49.3 DCA-LC	Bluestreak fifty three zero seven roger runway one cleared to land traffic will depart prior to your arrival.		
		20:42:54.6 JIA5307	cleared to land one Bluestreak fifty three zero seven.		
					The CRJ (JIA5342, callsign Bluestreak 5342) joins the DCA Tower frequency. The CVR transcript from the CRJ is included from this point forward.
		20:43:06.2 JIA5342	tower Bluestreak fifty three forty two on Mount Vernon Visual runway one.	20:43:06.3 RDO-2	tower Bluestreak fifty three forty two on Mount Vernon Visual runway one.
20:43:09.5 TWR-A	Bluestreak fifty three forty two Washington Tower winds are three two direct one seven gust five can you take runway three three?	20:43:09.5 DCA-LC	Bluestreak fifty three forty two Washington Tower winds are three two zero at one seven gusts two five can you take runway three three?	20:43:09.3 TWR-A	Bluestreak fifty three forty two Washington Tower winds are three two zero at one seven gusts two five can you take runway three three?
				20:43:17.9 HOT-1	do we got the numbers for it?
				20:43:19.5 HOT-2	yeah I think so.
20:43:20.0 TWR-A	Bluestreak fifty one seventy eight left turn at sierra ground point seven.	20:43:20.0 DCA-LC	Bluestreak fifty one seventy eight left turn at sierra ground point seven.[addressing Bluestreak 5170]	20:43:20.1 TWR-A	Bluestreak fifty one seventy eight left turn at sierra ground point seven.
				20:43:23.0 HOT-2	yeah.
				20:43:24.6 HOT-2	it's uh it's the same numbers.
		20:43:25.6 JIA5170	left sierra ground point seven fifty one seventy.	20:43:25.6 JIA5170	* * ground point seven fifty one seventy.
				20:43:29.1 HOT-1	I really don't want to but I guess uhhh tell 'em—.
				20:43:31.4 HOT-2	I mean I can just tell 'em—.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
				20:43:33.2 HOT-1	nah it's fine we got the numbers for it yeah tell 'em we're fine we'll do three three we'll do it.
		20:43:36.8 JIA5342	yeah we can do uh three three for Bluestreak fifty three forty two.	20:43:37.0 RDO-2	yeah we can do uh three three for Bluestreak fifty three forty two.
20:43:39.6 TWR-A	Bluestreak fifty three forty two at the Wilson Bridge change to * change to runway three three runway three three. [transmission broken]	20:43:39.6 DCA-LC	Bluestreak fifty three forty two at the Wilson Bridge change to cir— change to circ(le) runway three three. runway three three cleared to land.	20:43:39.7 TWR-A	Bluestreak fifty three forty two at the Wilson Bridge change to cir— * change to circ— * runway three three. runway three three cleared to land.
20:43:40.0 INT-2	gettin choppy close to the ground.				
20:43:43.5 INT-1	oh yeah down low its definitely gonna get choppy.				
20:43:45.8 INT-2	yeah.				
		20:43:46.8 JIA5342	change to runway three three uh runway three three cleared to land Bluestreak fifty three forty two.	20:43:46.3 RDO-2	change to runway three three uh runway three three cleared to land Bluestreak fifty three forty two.
20:43:47.7 INT-2	we're at three hundred.				
20:43:49.8 INT-1	roger got you at four looking for *.				
20:43:51.5 TWR-A	Blackjack one landing at boardwalk will be at your own risk when able report landing assured winds are currently three three direct one five gust two five.	20:43:51.4 DCA-LC	Blackjack one landing bal— at the boardwalk will be at your own risk when able report landing assured winds are currently three three zero at one five gusts two five.	20:43:51.6 TWR-A	Blackjack one land * * land at the boardwalk will be at your own risk when able report landing assured winds are currently three three zero at one five gust two five.
				20:43:54.0 HOT-1	three three.
20:43:59.7 BLJK1	landing own risk and wilco for Blackjack one copy the winds thanks.	20:43:59.7 BLJK1	landing own risk and wilco for Blackjack one copy the winds thanks.		
				20:44:07.4 HOT-1	thousand feet at the uh highway. five hundred over the church.
				20:44:08.6 EGPWS	twenty five hundred. [automated voice]

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:44:15.5 TWR-A	** traffic on * four mile final runway one line up and wait * ready to go.	20:44:15.5 DCA-LC	Jazz seven eight nine traffic on three to four mile final runway one line up and wait be ready to go.	20:44:15.6 TWR-A	Jazz seven eight nine traffic will be on a four mile final runway one lineup and wait be ready to go.
				20:44:16.4 HOT-2	all right yep.
		20:44:19.6 JZA789	line up and wait we'll be ready Jazz seven eight nine.	20:44:19.7 JZA789	line up and wait we'll be ready Jazz seven eight nine.
20:44:27.7 INT-1	alright there's three hundred for two hundred.			20:44:27.3 HOT-1	I'll just disconnect everything and we'll go from there.
20:44:29.2 TWR-A	Bluestreak fifty three zero five currently number two for departure following an American seven three off your left.	20:44:29.2 DCA-LC	Bluestreak fifty three zero five tower be number two for departure follow that American seven three off your left.	20:44:29.2 TWR-A	Bluestreak fifty three zero five currently number two for departure following an American seven three off your left.
				20:44:31.7 HOT-1	all right.
		20:44:34.1 JIA5305	Bluestreak fifty three zero five.	20:44:34.2 JIA5305	Bluestreak fifty three zero five.
				20:44:35.1 HOT-1	* go gear down flaps thirty.
20:44:35.7 TWR-A	Delta eight thirty two currently number three following an American C-R-J.	20:44:35.6 DCA-LC	Delta eight thirty two tower be number three follow that American C-R-J.	20:44:35.9 TWR-A	Delta eight thirty two currently number three following the American C-R-J.
				20:44:37.2 HOT-2	gear down.
				20:44:37.3 CAM	[increase in ambient noise consistent with gear deployment]
		20:44:39.3 DAL832	number three after the C-R-J Delta eight fi— eight thirty two.	20:44:39.4 DAL832	number three after the C-R-J.
				20:44:39.5 HOT-2	flaps thirty.
				20:44:40.6 HOT-1	flaps forty five before landing checklist.
20:44:41.8 TWR-A	* twenty three fifty five left turn november ground point seven good day.	20:44:41.7 DCA-LC	JetBlue twenty three fifty five left turn november ground point seven good day.	20:44:41.9 TWR-A	JetBlue twenty three fifty five left on november ground point seven have a good day.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
				20:44:43.7 HOT-2	flaps forty five.
				20:44:46.0 HOT-2	thrust reverser armed. landing gear lever verify down three green.
		20:44:46.0 JBU2355	I think we're gonna miss november can we take the runway?	20:44:46.1 JBU2355	* * * november can we take the runway?
20:44:48.4 TWR-A	looks like you have november. let me know if you have it.	20:44:48.3 DCA-LC	looks like you have november let me know if you have it.	20:44:48.4 TWR-A	looks like you have november let me know if you have it.
				20:44:51.9 HOT-1	uh down three green.
				20:44:53.0 HOT-2	slats flaps verify forty five degrees * indicating.
		20:44:54.4 JBU2355	yeah we got november for JetBlue twenty three fifty five.	20:44:54.6 JBU2355	yeah we got november for JetBlue twenty three fifty five.
20:44:55.1 INT-2	two hundred.			20:44:55.3 HOT-1	forty five degrees indicating.
				20:44:56.2 HOT-2	flight spoilers verify stowed.
20:44:56.9 TWR-A	alright. ground point seven good day.	20:44:56.9 DCA-LC	alright. ground point seven good day.	20:44:56.9 TWR-A	* ground point seven have a good day.
				20:44:57.6 HOT-1	they're stowed.
		20:44:58.3 JBU2355	ground point seven we'll see ya.	20:44:58.5 JBU2355	ground point seven * *.
				20:44:58.5 HOT-2	before landing checklist is complete.
				20:45:00.2 HOT-1	thank you.
20:45:00.2 TWR-A	* seven * winds are three two direct one five gust two five * * no delays runway one.	20:45:00.2 DCA-LC	Jazz seven eight nine winds are three two zero at one five gusts two five traffic two out no delay runway one cleared for takeoff.	20:45:00.3 TWR-A	Jazz seven eight nine winds are three two zero at one five gust two five traffic's two out no delay runway one cleared for takeoff.
		20:45:06.0 JZA789	cleared takeoff runway one no delay Jazz seven eight nine.	20:45:06.2 JZA789	cleared takeoff runway one no delay Jazz seven eight nine.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:45:09.3 BLJK1	Blackjack one landing assured boardwalk good night.	20:45:09.3 BLJK1	Blackjack one landing assured boardwalk good night.		
				20:45:11.3 HOT-1	lets see... approaches... approaches... I dunno * * .
20:45:11.7 TWR-A	Blackjack one roger freq change approved good night.	20:45:11.7 DCA-LC	Blackjack one roger frequency change approved good night.	20:45:11.7 TWR-A	* * * frequency change approved good night.
20:45:13.8 RDO-1	PAT two five Memorial.	20:45:14.0 PAT25	PAT two five Memorial. [loud static in background]		
20:45:14.5 INT-2	*.				
20:45:16.1 TWR-A	PAT two five roger.	20:45:16.0 DCA-LC	PAT two five roger.	20:45:16.1 TWR-A	PAT two five roger.
20:45:17.1 INT-2	alright.				
20:45:17.8 INT-1	lots of right pedal ma'am.				
20:45:19.0 INT-2	oh-kay.				
		20:45:19.9 AAL3130	Washington Tower American thirty one thirty with you runway one.	20:45:20.0 AAL3130	Washington Tower American thirty one thirty with you runway one.
20:45:20.0 INT-1	there we go now we can make the turn.				
20:45:21.3 INT-2	okay.				
20:45:22.7 INT-2	* * * .				
20:45:22.7 TWR-A	American thirty one (thirty/thirty one) Washington Tower winds are three one direct one four * runway one clear to land * * .	20:45:22.8 DCA-LC	American thirty one thirty Washington Tower winds are three one zero at one four gusts two five runway one cleared to land traffic will depart— may depart prior to your arrival.	20:45:22.8 TWR-A	American thirty one thirty Washington Tower winds are three one zero at one four gust two five runway one cleared to land traffic will depart— may depart prior to your arrival.
				20:45:24.1 HOT-1	* * visual three three * * .

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:45:27.6 INT-3	clear left.			20:45:27.5 CAM	[sound of cavalry charge consistent with autopilot disconnect]
20:45:28.8 INT-2	clear left. crane. no factor.				
				20:45:30.6 HOT-1	that's me I got ten plus.
20:45:32.4 INT-1	you're at three hundred feet. come down for me.				
		20:45:32.5 AAL3130	okay cleared to land runway one American thirty one thirty.	20:45:32.6 AAL3130	okay clear to land runway one American thirty one thirty.
20:45:33.9 INT-2	yeah.				
20:45:36.0 INT-2	go down two hundred.			20:45:35.1 HOT-2	all checks.
				20:45:39.4 HOT-1	we're configured.
				20:45:39.9 HOT-2	yep.
				20:45:40.5 CAM	[sound of switch]
				20:45:41.3 HOT-1	what'd ya say?
				20:45:42.0 HOT-2	yeah we are configured. you want me to uh clear the flight director and everything?
				20:45:44.8 HOT-1	uhhh sure why not.
				20:45:46.4 HOT-2	all right.
20:45:50.6 INT-1	crane out the right. no factor.				
20:45:52.2 INT-2	okay.				
20:45:55.0 TWR-A	** contact * good day.	20:45:55.0 DCA-LC	Jazz seven eight nine contact Potomac Departure good day.	20:45:55.0 TWR-A	Jazz seven eight nine contact Potomac Departure good day.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:45:56.9 JZA789	have a good day.	20:45:57.2 JZA789	have a good day.
20:45:57.9 TWR-A	American seventy one thirty * final.	20:45:57.9 DCA-LC	American thirty one thirty slow to final.	20:45:58.0 TWR-A	American thirty one thirty slow to final.
		20:46:00.1 AAL3130	slowin' American thirty one thirty.	20:46:00.2 AAL3130	slowin' American thirty one thirty.
				20:46:01.7 CAM	[sound of tone consistent with altitude alert]
20:46:01.6 TWR-A	PAT two five traffic just south of Wilson Bridge is a C-R-J at one thousand two hundred feet for runway three three.	20:46:01.5 DCA-LC	PAT two five traffic just south of the Wilson Bridge is a C-R-J at one thousand two hundred feet circling runway three three.	20:46:01.7 TWR-A	PAT two five traffic just south of Wilson Bridge is a C-R-J at one thousand two hundred feet circling to runway three three.
20:46:07.9 RDO-1	PAT two five has the traffic in sight request visual separation.	20:46:08.0 PAT25	PAT two five has the traffic in sight request visual separation. [loud static during transmission]		
				20:46:09.8 HOT-1	uhhh I gotta level off.
20:46:10.5 TWR-A	separation approved.	20:46:10.5 DCA-LC	vis separation approved.	20:46:10.5 TWR-A	vis separation approved.
20:46:11.6 TWR-A	American sixteen thirty tower runway one line up and wait traffic * runway three three this traffic on a six mile final.	20:46:11.7 DCA-LC	American sixteen thirty tower runway one line up and wait traffic three out circling runway three three additional traffic on six mile final.	20:46:11.7 TWR-A	American sixteen thirty tower runway one lineup and wait traffic is ** circling runway three three additional traffic on a six mile final.
				20:46:13.2 HOT-2	all right.
		20:46:16.8 AAL1630	line up and wait runway one American sixteen thirty.	20:46:16.9 AAL1630	lineup and wait runway one American sixteen thirty.
20:46:19.1 MUSL7	tower Muscle seven approaching Springfield request route three to zone six.	20:46:19.2 MUSL7	tower Muscle seven approaching Springfield request route three to zone six. [loud static during transmission, transmission stepped on by simultaneous transmission from airplane frequency]		
		20:46:22.1 AAL472	American four seventy two by KATRN runway one. [transmission simultaneous with Muscle 7 transmission]	20:46:22.0 AAL472	American four seventy two by KATRN runway one.
20:46:24.5 TWR-A	seven stand by.	20:46:24.5 DCA-LC	Muscle seven stand by.	20:46:24.6 TWR-A	Muscle seven standby.

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:46:26.4 INT-1	ha ha.				
20:46:27.2 INT-2	ha.				
				20:46:29.9 EGPWS	one thousand. [automated voice]
20:46:29.8 TWR-A	Bluestreak fifty three zero seven keep rolling out to november ground point seven good day.	20:46:29.8 DCA-LC	Bluestreak fifty three zero seven keep rolling out to november ground point seven good day.	20:46:29.9 TWR-A	Bluestreak fifty three zero seven keep rolling out to november ground point seven good day.
				20:46:30.6 CAM	[sound of click consistent with verifying spoilers are stowed]
				20:46:32.1 HOT-2	thousand feet.
				20:46:32.8 HOT-1	stable spoilers stowed confirm missed approach altitude set.
		20:46:33.4 JIA5307	november three zero seven.	20:46:33.5 JIA5307	november fifty three zero seven.
20:46:34.0 INT-1	he's got'em stacked up tonight.				
20:46:36.0 INT-2	(yeah/kinda) busy.			20:46:35.3 HOT-2	uh two thousand two hundred set.
20:46:40.4 INT-1	alright three three zero so now we've pretty much got a right quartering tailwind going to be pushing you.				
20:46:43.7 INT-2	yeah.				
20:46:45.7 ARCR1	National Tower good evening AirCare one's with you a single medivac heli— [transmission cut off by next tower transmission]	20:46:45.7 ARCR1	National Tower good evening AirCare one's with you a single medivac— [transmission cut off by next tower transmission]		
20:46:48.0 TWR-A	American sixteen * one * one four gust two five traffic * * runway three three no delay runway one clear for immediate takeoff.	20:46:48.1 DCA-LC	American sixteen thirty winds are three two zero at one four gusts two five traffic two mile left base runway three three no delay runway one cleared for immediate takeoff.	20:46:48.2 TWR-A	American sixteen thirty winds are at three two zero at one four gusting two five traffic is a two mile left base runway three three no delay runway one clear for immediate takeoff. [sound of two beeps audible during transmission]
20:46:48.9 INT-2	* crabbing.				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
20:46:50.6 INT-1	yeah.				
20:46:51.8 INT-2	better not to fight the wind.				
		20:46:55.6 AAL1630	number one cleared for takeoff American sixteen thirty.	20:46:55.8 AAL1630	number one cleared for takeoff American sixteen thirty.
20:46:56.6 INT-2	right pedal.				
20:46:58.7 TWR-A	Muscle seven say request.	20:46:58.6 DCA-LC	Muscle seven say request.	20:46:58.8 TWR-A	Muscle seven say request.
20:47:00.8 MUSL7	and Muscle seven request route three to zone six.	20:47:00.9 MUSL7	yeah Muscle seven request route three to zone six. [loud static during transmission]		
20:47:04.7 TWR-A	Muscle seven you said route three to zone six?	20:47:04.7 DCA-LC	Muscle seven you say route three to zone six?	20:47:04.1 TWR-A	Muscle seven did you say * * zone six?
20:47:06.7 MUSL7	a-firm Muscle seven.	20:47:06.8 MUSL7	a-firm Muscle seven. [loud static during transmission]		
20:47:07.9 TWR-A	Muscle seven approved.	20:47:07.8 DCA-LC	Muscle seven approved.	20:47:07.9 TWR-A	Muscle seven approved.
20:47:09.1 MUSL7	Muscle seven *.	20:47:09.2 MUSL7	Muscle seven. [loud static during transmission]		
		20:47:13.8 AAL472	American four seventy two Mount Vernon Visual one. [transmission stepped on by simultaneous transmission from helicopter frequency]	20:47:13.7 AAL472	American four seventy two Mount Vernon Visual * one.
20:47:15.0 ARCR1	National Tower good evening AirCare one's with you single medivac helicopter one thousand feet two niner niner one on the altimeter requesting zone six for Fairfax.	20:47:15.1 ARCR1	National Tower good evening AirCare one is with you single medivac helicopter one thousand feet two niner niner one on the altimeter requesting zone six for Fairfax. [transmission made during previous airplane transmission]		
20:47:25.5 TWR-A	medivac AirCare one Washington Tower nearest altimeter two niner niner zero approved through Washington class bravo airspace before landing assured at Fairfax.	20:47:25.5 DCA-LC	medivac AirCare one Washington Tower National altimeter two niner niner zero. approved through Washington class bravo airspace report landing assured at Fairfax.	20:47:25.5 TWR-A	medevac AirCare one Washington Tower * altimeter two niner niner zero * approved bravo airspace * * landing assured *.
				20:47:29.2 EGPWS	five hundred. [automated voice]

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
				20:47:30.9 HOT-2	five hundred feet on top of the bug sinking seven stable.
20:47:34.0 ARCR1	two niner two niner niner zero for AirCare one copies.	20:47:34.0 ARCR1	two niner— two niner niner zero for AirCare one copies.		
				20:47:34.3 HOT-1	checks.
				20:47:35.5 HOT-2	I got two white two red.
				20:47:37.2 HOT-1	cool.
		20:47:37.8 DCA-LC	[two brief mic keys with rapid beeping audible in background consistent with conflict alert]		
20:47:39.1 TWR-A	PAT two five you have the C-R-J in sight? [sounds of rapid beeping consistent with conflict alert audible in background while tower is transmitting]	20:47:39.1 DCA-LC	PAT two five do you have that C-R-J in sight? [sounds of rapid beeping consistent with conflict alert audible in background]	20:47:39.1 TWR-A	PAT two five you got the C-R-J in sight? [sounds of rapid beeping consistent with conflict alert audible in background while tower is transmitting]
				20:47:40.3 TCAS	traffic. traffic. [automated voice]
20:47:41.9 TWR-A	PAT [transmission interrupted by 0.8 second mic key from PAT-25] C-R-J.	20:47:41.9 DCA-LC	PAT two five pass behind that C-R-J. [sounds of rapid beeping consistent with conflict alert audible in background]	20:47:42.0 TWR-A	PAT two five pass behind the C-R-J. [sounds of rapid beeping consistent with conflict alert audible in background while tower is transmitting]
20:47:44.1 RDO-1	PAT two five has uh— aircraft in sight request visual separation.	20:47:44.1 PAT25	PAT two five has a— aircraft in sight request visual separation. [loud static in background]		
20:47:47.3 TWR-A	*	20:47:47.3 DCA-LC	vis separation.	20:47:47.3 TWR-A	vis sep * *.
20:47:47.8 INT-2	(woah/below).				
20:47:52.5 INT-1	alright kinda come left for me ma'am I think that's why he's asking.				
20:47:54.3 INT-2	sure.				

Time and Source	PAT-25 (Helicopter) CVR	Time and Source	DCA Tower Recording	Time and Source	JIA5342 (Airplane) CVR
		20:47:54.7 AAL472	American four seventy two by BADDN Mount Vernon Visual.	20:47:54.8 AAL472	American four seventy two at BADDN Mount Vernon Visual.
20:47:55.3 INT-1	we're kinda...				
20:47:55.4 INT-2	oh-kay. fine.			20:47:55.4 EGPWS	plus hundred. [automated voice]
20:47:56.4 INT-1	...out towards the middle.				
20:47:57.6 TWR-A	American four seventy two Washington Tower [transmission cut off by impact]	20:47:57.6 DCA-LC	American four seventy two Washington Tower winds are three two zero at one seven— [sounds of rapid beeping audible in background consistent with conflict alert. audible reaction in background before transmission cut off]	20:47:57.7 TWR-A	American four seventy ***. [transmission cut off by impact]
20:47:57.7 INT-2	[sound similar to mumbling]			20:47:58.1 CAM	[sound of click]
				20:47:58.6 HOT-1	oh #.
				20:47:58.8 HOT-2	ohhhh ohhhh. [louder voice]
20:47:59.2 RDO	[sound similar to ELT signal]			20:47:59.5 CAM	[sounds consistent with impact]
20:48:00.1 FPS	[sound of rapid beeping similar to stabilator auto mode fail master caution, continues to end of recording]				
20:48:00.1 END OF COMBINED TRANSCRIPT					