

**VATSIM CHICAGO ARTCC AND CLEVELAND ARTCC
LETTER OF AGREEMENT**

EFFECTIVE: DECEMBER 14, 2020

SUBJECT: INTERFACILITY PROCEDURES AND DELEGATION OF AIRSPACE

1. PURPOSE

This letter of agreement defines interfacility procedures and delegation of airspace between Cleveland Air Route Traffic Control Center (ZOB) and Chicago Air Route Traffic Control Center (ZAU).

2. DISCLAIMER

Information contained herein is designed and specifically for use in a virtual air traffic control environment. It is not applicable, nor should it be referenced for live operations.

3. CANCELLATION

VATUSA Cleveland ARTCC and VATUSA Chicago ARTCC Letter of Agreement dated December 9, 2019 is hereby cancelled.

4. PROCEDURES

- a. Each ARTCC must route/restrict aircraft in accordance with Attachment 3 of this document.
- b. Coordinate and resolve, in a practical manner that provides the smoothest experience to the pilot, all deviations from, and situations not addressed by, this document (e.g., non-standard sectorization, holding, pilots unable to accept LOA routes, aircraft above/below LOA altitudes, etc.).
- c. Ensure that all aircraft are at a 1X simulation rate prior to initiating handoff.
- d. Ensure that aircraft on the same route segment at the same altitude (or different altitudes, but same destination airport within ZOB or ZAU) are separated by not less than 10 nautical miles (steady or increasing) or other value specified herein unless greater MIT separation is requested real-time by ZOB/ZAU.
 - i. NOTE: Separation of less than 10 nautical miles is permitted provided the trailing aircraft is operating at a speed that will permit it to overtake the lead aircraft, and both are vertically separated.
- e. Ensure that handoff requests are made at least 10 nautical miles prior to the relevant airspace boundary unless otherwise specified in this document. Handoff requests may be initiated up to 50 nautical miles without prior coordination.
 - i. NOTE: Transfer of radio communications can be delayed no later than the lateral boundary.
- f. Ensure that all scratchpad entries are cleared unless required to convey operational information (e.g. "M80" for assigned Mach number, "H####" for assigned heading) not coordinated by other means (e.g. private message, verbally, etc.).
- g. Ensure the data block is formatted as follows:

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- i. Data blocks must reflect the aircraft's assigned altitude at the time of handoff.
- ii. No scratchpad, except if specific control instructions that differ from LOA procedures have been issued. In these cases, the alternate instruction shall be verbally or textually included as well as included in the scratchpad. Scratchpad entries may include:
 - 1. Indicated speed restrictions (e.g., "S210", "S270+"). Clients only capable of 4-characters remove the "S" if needed (e.g., "270+")
 - 2. "M" for Mach speed restrictions (e.g., "M81", "M78+")
 - 3. "H" for heading assignments (e.g., "H230")
 - 4. "H" and direction for deviations (e.g., "H15L" for 15 degrees left of track)
- g. Altitude Coordination.
 - i. Data blocks must reflect the assigned altitude (either interim or hard) at the time of handoff.
 - ii. The receiving controller approves the assigned altitude, including IAFDOF (interim or hard for climb or descent to that altitude) by accepting the handoff. When unable to approve the altitude indicated in the data block, the receiving controller must verbally coordinate with the transferring controller, prior to accepting the handoff.
 - 1. Exception: An APREQ is required for all IAFDOF traffic entering ZOB via the DET sector.
 - iii. Handoffs must be directed to the sector having jurisdiction of the assigned altitude.
 - iv. Aircraft descending below the LOA restriction altitude must cross the boundary at or below (AOB) the LOA specified altitude, and may be descending to the lower assigned altitude. The data block in this case will reflect the assigned altitude as a hard altitude.
 - v. Interim Altitude (ITAL) Procedures: When an interim altitude is used, the altitude entered in the flight plan ("hard altitude") must reflect the requested altitude or, for arrivals, the altitude to which the aircraft must descend per the LOA.
- h. KFWA Arrivals That Will Enter ZAU Airspace. Unless otherwise coordinated:
 - i. ZOB must:
 - 1. Issue a clearance to cross the 30 DME arc of the FWA VORTAC at 11,000 feet (ft.).
 - 2. Initiate a handoff to ZAU.
 - 3. Transfer communications to FWA Approach Control upon acceptance of handoff by FWA Approach Control. In the event that FWA Approach Control has not accepted the handoff at the time the aircraft is crossing the ZOB/ZAU boundary, transfer communications to ZAU.
 - ii. ZAU must:
 - 1. If traffic is not a factor, re-direct handoff to FWA Approach Control.
 - 2. If traffic is a factor requiring communications with the aircraft, verbally coordinate with ZOB.

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- i. Restrictions: Required routes and altitudes for aircraft transitioning the ZOB/ZAU boundary are contained in **Attachment 3 -Tables: Routings, Restrictions and Control.**

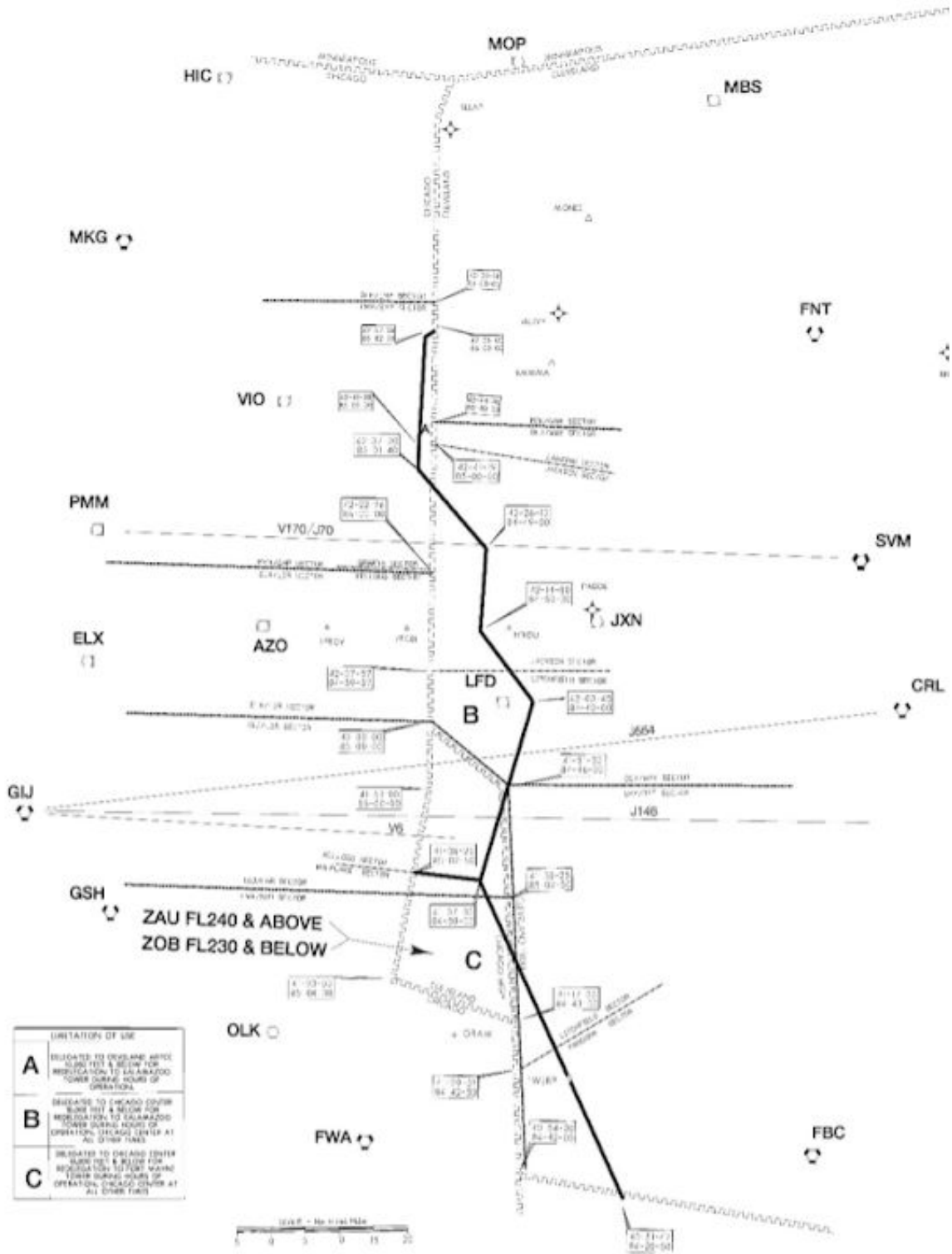
4. ATTACHMENTS

- a. ATTACHMENT 1 - AIRSPACE DELEGATED TO AZO & FWA APPROACH
- b. ATTACHMENT 2 - ZAU & ZOB AIRPORTS
- c. ATTACHMENT 3 - TABLES (ROUTINGS, RESTRICTIONS AND CONTROL
- d. ATTACHMENT 4 - ZOB AIRSPACE
- e. ATTACHMENT 5 - ZAU AIRSPACE

	
Nicholas Lascko Air Traffic Manager VATSIM Cleveland ARTCC	Dristin Rose Air Traffic Manager VATSIM Chicago ARTCC

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ATTACHMENT 1 - AIRSPACE DELEGATED TO AZO & FWA APPROACH



**VATSIM CHICAGO ARTCC AND CLEVELAND ARTCC
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ATTACHMENT 2- TERMINAL AREA AIRPORTS

ZAU Airports

ORD Metro West Satellite Airports	
Aurora Muni	KARR
Dupage	KDPA

ORD Metro North Satellite Airports	
Campbell	C81
Galt Field	10C
Lake in the Hills	3CK
Chicago Executive	KPWK

ORD Metro South Satellite Airports	
Lewis University	KDPA

MKE Metro Airports	
General Mitchell International	KMKE
Burlington Muni	KBUU
Hartford Muni	KHXF
Lawrence J Timmerman	KMWC
West Bend Muni	KETB
Waukesha County	KUES

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ZAU Airports East of 87°W	
Padgham Field	35D
Dekalb County	KGWB
Fremont Muni	KFFX
Grand Haven Memorial Airpark	3GM
Park Township	KHLM
Muskegon County	KMKG
*South Haven Area Regional	KLWA
West Michigan Regional	KBIV

- *- South Bend Approach Airport

ZOB Airports

DTW Satellite Airports	
Custer	KTTF
Ann Arbor Muni	KARB
Willow Run	KYIP
Coleman A. Young Muni	KDET
Oakland County International	KPTK
Windsor	CYQG
Grosse Ile Muni	KONZ
Oakland Southwest	Y47
Livingston Co. Spencer J Hardy	KOZW
Oakland/Troy	KVLL
Canton-Plymouth-Mettetal	1D2
Selfridge ANGB	KMTC

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CLE Metro Airports	
Cleveland-Hopkins International	KCLE
Lorain County Regional	KLPR
Burke Lakefront	KBKL
Cuyahoga County	KCGF
Lake County Executive	KLNN

MBS Metro Airports	
Saginaw International	KMBS
Saginaw County H W Browne	KHYX
James Clements Muni	3CM

TOL Metro Airports	
Williams County	0G6
Wood County	1G0
Defiance Memorial	KDFI
Toledo Suburban	KDUH
Toledo Express	KTOL
Fulton County	KUSE
Putnam County	KOWX
Findlay	KFDY
Fostoria Metropolitan	KFZI
Wyandot County	56D
Hillsdale Muni	KJYM
Lenawee County	KADG

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Toledo Executive	KTDZ
Sandusky County Regional	S24

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ATTACHMENT 3- RESTRICTION TABLES

ZAU Provides for ZOB							
Qualifiers/Definitions					Requirements/Restrictions		
#	Arrival Airport	Departure Airport	If Via	Aircraft Type	Route Required	Altitude <small>Unless otherwise coordinated, altitude restriction is at the boundary.</small>	Special
1							ZOB has control to change beacon codes subsequent to radar handoff and frequency change.
2			GIJ/LGR sectors, on or south of J146 and at or above FL240				ZOB has control for right turns up to 30° or direct DJB. <i>(see Note 1)</i>
3	KCAK, KAKR		PMM/EMP sectors	RNAV	OLYEE BRWNZ STAR or HASTE BRWNZ STAR	AOB FL330	ZOB has control for left turns up to 20° <i>(see Note 1)</i>
			ELX/GIJ sectors	RNAV	DETMR BRWNZ STAR or BENJO BRWNZ STAR		ZOB has control for turns up to 20° <i>(see Note 1)</i>
			FWA sector		MSKTS HUUVR STAR	AOB FL290	ZOB has control for descent subsequent to radar handoff and frequency change.

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4	KCLE Metro		PMM/EMP sectors	RNAV	OLYEE BRWNZ STAR or HASTE BRWNZ STAR	AOB FL330	ZOB has control for left turns up to 20° <i>(see Note 1)</i>
			ELX or GJJ sectors	RNAV Jet	DETMR BRWNZ STAR or BENJO BRWNZ STAR	AOB FL330	ZOB has control for turns up to 20° <i>(see Note 1)</i>
				RNAV Prop		AOB FL230	
		North of J70 AOB FL230	RNAV	OLYEE BRWNZ STAR		ZOB has control for left turns up to 20° <i>(see Note 1)</i>	
		SBN Approach		RNAV	BRWNZ STAR	AOB FL230	
FWA Approach		RNAV	FBC MFD ROKNN ROKNN STAR	AOB FL190			
5	KCLE Metro, KCAK, and AKR			Non RNAV	DXO DJB	Altitude restrictions are via the sectors per #3 & 4 above	

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6	KDTW	KLG Sector	RNAV	HOSSA VCTRZ STAR or HOSSA HAYLL STAR	AOB FL190	ZOB has control to issue appropriate OPD.
			Non-RNAV	LFD CRUXX DXO	AOB FL190	
		OLK Sector other than KFWA departures	RNAV Jets	VDUUB HANBL STAR or VDUUB LECTR STAR	AOB FL230	ZOB has control to issue the appropriate OPD, and control for left turns up to 30° AOB FL230, within 15NM of the boundary. In exercising control for turns, ZOB has control to descend aircraft to 17,000 ft, and is responsible for any point-out to ZAU 81.
			RNAV Props		AOB FL190	
			Non-RNAV	FWA CRUXX DXO	Same for RNAV	
		KFWA	RNAV	SHANX HANBL STAR or SHANX LECTR STAR		
			Non-RNAV	FWA CRUXX DXO		
		KGRR	RNAV	ENGRM KKISS STAR or ENGRM RKCTY STAR		
			Non-RNAV	VIO QUBEE SVM DXO		
		3FM Sector	RNAV Jets	BUCKE KKISS/RKCTY STAR or DUUDA KKISS/RKCTY STAR	Cross TINDR AOB FL230	ZOB has control to issue the appropriate OPD.
			RNAV Props		AOB FL190	
			Non-RNAV	PEGEE QUBEE SVM DXO	Cross PEGEE AOB FL190	

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7	KDTW Sats		PMM/ SPARTA Sectors	RNAV Jets	CLLEM RRALF STAR	AOB FL190	
				RNAV Props		AOB 17,000 ft.	
				Non- RNAV	VIO PSI	AOB 17,000 ft.	
			KLG Sector	RNAV	HOSSA PETTE STAR	AOB 17,000 ft.	
				Non- RNAV	LFD CRL	AOB 15,000 ft.	
			OLK Sector	RNAV Jets	HEVVD PETTE STAR	AOB FL210	
				RNAV Props		AOB FL190	
				Non- RNAV	FWA LFD CRL	AOB FL190	
			8	KEWR			
9	KFNT		north of V170			AOB FL190	
10	KJFK				HOXIE J70 LVZ LENDY STAR		
11	KJXN		north of V6			Great Lakes TRACON	
12	KLAN					Great Lakes TRACON	When ZOB assumes control of Great Lakes TRACON, they have control for turns and descent on contact.
			OLK sector				AOB FL230
13	KMBS Metro		north of VIO			11,000 ft. or lowest available, descent at pilot's discretion	
14	KMFD		south of J554			AOB FL270	

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15	KPIT KAGC				TAMDE ACO JESEY STAR		
		Chicago Metro and MKE Metro departures			OTENS ANEWA TAMDE ACO JESEY STAR	AOB FL350	
16	KTEB KMMU				HOXIE LVZ STAR		
17	KTOL Metro		north of V6		MUDHN dct	AOB 17,000 ft.	
			on or south of V6, north of PAN sector			AOB 15,000 ft.	
			PAN sector			AOB 17,000 ft.	
18	KYNG					AOB FL330	
19	CYYZ		PMM/EMP/ 3FM sectors		MONEE NUBER STAR or SVM QWERI NUBER STAR		
			GJJ/ELX sectors		SVM QWERI NUBER STAR		
		ORD Metro departures			PADDE SVM QWERI NUBER STAR		
		KMDW departures			NELLS QWERI NUBER STAR		

NOTE 1: Procedures involving control for turns are subsequent to radar handoff & frequency change. Controller initiating turns is responsible for all additional coordination.

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ZOB Provides for ZAU							
Qualifiers/Definitions					Requirements/Restrictions		
#	Arrival Airport	Departure Airport	If Via	Aircraft Type	Route Required	Altitude <small>Unless otherwise coordinated, altitude restriction is at the boundary.</small>	Special
20							ZAU has control to change beacon codes subsequent to radar handoff and frequency change.
21	KASW					AOB 16,000 ft.	
22	KAZO KBTL KIRS		north of V6			via approach control	
			on or south of V6			AOB FL220	
23	KCVG	KLAN, KFNT			FWA ZEKUS ARBAS RID MEEKR		
24	KGRR		north of V170			Great Lakes TRACON	When ZAU assumes control of Great Lakes TRACON, they have control for turns and descent on contact.
			between V170 and an east/west line through LFD VOR/DME	Jets		AOB FL190 descending to 11,000 ft.	
				Props		Great Lakes TRACON	

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25	KGYG KIGQ		North of V233	RNAV	ZEGBI LEROY BAGEL GSH GSH STAR	AOB FL220	ZAU has control for turns direct BAGEL. (see note 1).
				Non-RNAV	AZO GIJ CGT direct destination		
			V233 or south, and north of J60		BAGEL GSH GSH STAR	AOB FL220	
			J60 or south		GSH GSH STAR	AOB FL280	
26	KIND	KDTW & Satellites, TOL Metro			REEDA SJAAY SNKPT STAR	AOB FL220	ZAU has control for left turns. (see note 1).
				RNAV	SJAAY SNKPT STAR	AOB FL280	
		Non-RNAV	FWA CLANG STAR				
27	KMDW		North of V233	RNAV	AZO GSH GSH STAR	AOB FL220	ZAU has control for left turns AOA FL200. (see note 1).
				Non-RNAV	ZEGBI LEROY BAGEL PANGG STAR		
			V233 or south, and north of J60	RNAV	BAGEL PANGG STAR	AOB FL220	
				Non-RNAV	GSH GSH STAR		
			J60 or south	RNAV	BAGEL PANGG STAR	AOB FL300	
				Non-RNAV	GSH GSH STAR		

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28	MKE Metro		AOA FL240		Enter ZAU north of PMM/3FM boundary and routed: MKG/GETCH LYSTR SUDDS		ZAU has control for turns direct MKG/GETCH AOA FL240 north of KORD arrival route. (see note 1).
			AOB FL230		MKG/GETCH LYSTR SUDDS		
29	KENW KRAC KUGN		Entering GIJ/ELX/LGR		PMM/SMUUV ZEMEL EXARR	AOB FL320	
			Entering other ZAU sectors		PMM/SMUUV ZEMEL EXARR	AOB FL340	
30	KMSP	PIT Metro and CLE Metro	AOB FL360	RNAV	KAMMA KKILR STAR or GSH/YABRO KAMMA KKILR STAR		
				Non-RNAV	BAE EAU STAR or GSH BAE EAU STAR		
			AOB FL350	RNAV	GSH/YABRO KAMMA KKILR STAR		
				Non-RNAV	GSH BAE EAU STAR		
31	KSBN, KBEH, KEKM, KGSH, KVPZ, KMGC		LFD sector			AOB FL220 descending to FL200	
			PAN sector			AOB FL220	

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32	Airports East of 87°W					AOB FL200	
33	KORD Metro North & West Satellites				PMM/SMUUV FIYER OBK	AOB FL300	
					ELX V100 DEERE	AOB FL220	
34	KORD Metro West & South Satellites		on or south of J146		OXI EON JOT	AOB FL320	

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35	KORD	KDTW & Satellites	Non-RNAV	JXN AZO ELX V100 DEERE	AOB FL220			
			RNAV	SMUUV WYNDE STAR	AOB FL280			
				WATSN STAR (arrivals may be cleared no further direct than WATSN, and must enter ZAU south of GJ sector.)	AOB FL340	ZAU has control for turns direct WATSN or DAIFE. <i>(see note 1).</i>		
		TOL Metro	RNAV	WATSN STAR, no further than WATSN	AOB FL220	ZAU has control for turns direct WATSN, DAIFE, or OXI. <i>(see note 1).</i>		
			Non-RNAV	OXI OXI STAR				
				Props	GSH GJ V526 DEERE or WYNDE STAR	AOB FL240		
				RNAV	WYNDE STAR	AOB FL320	Must enter ZAU via ECK sector. ZAU has control for turns and descent on contact.	
				Non-RNAV	VIO ELX V100 DEERE			
				RNAV	WATSN STAR (arrivals may be cleared no further direct than WATSN, and must enter ZAU south of GJ sector.)	AOB FL340		ZAU has control for turns direct WATSN, DAIFE, or OXI. <i>(see note 1).</i>
				Non-RNAV	OXI OXI STAR			

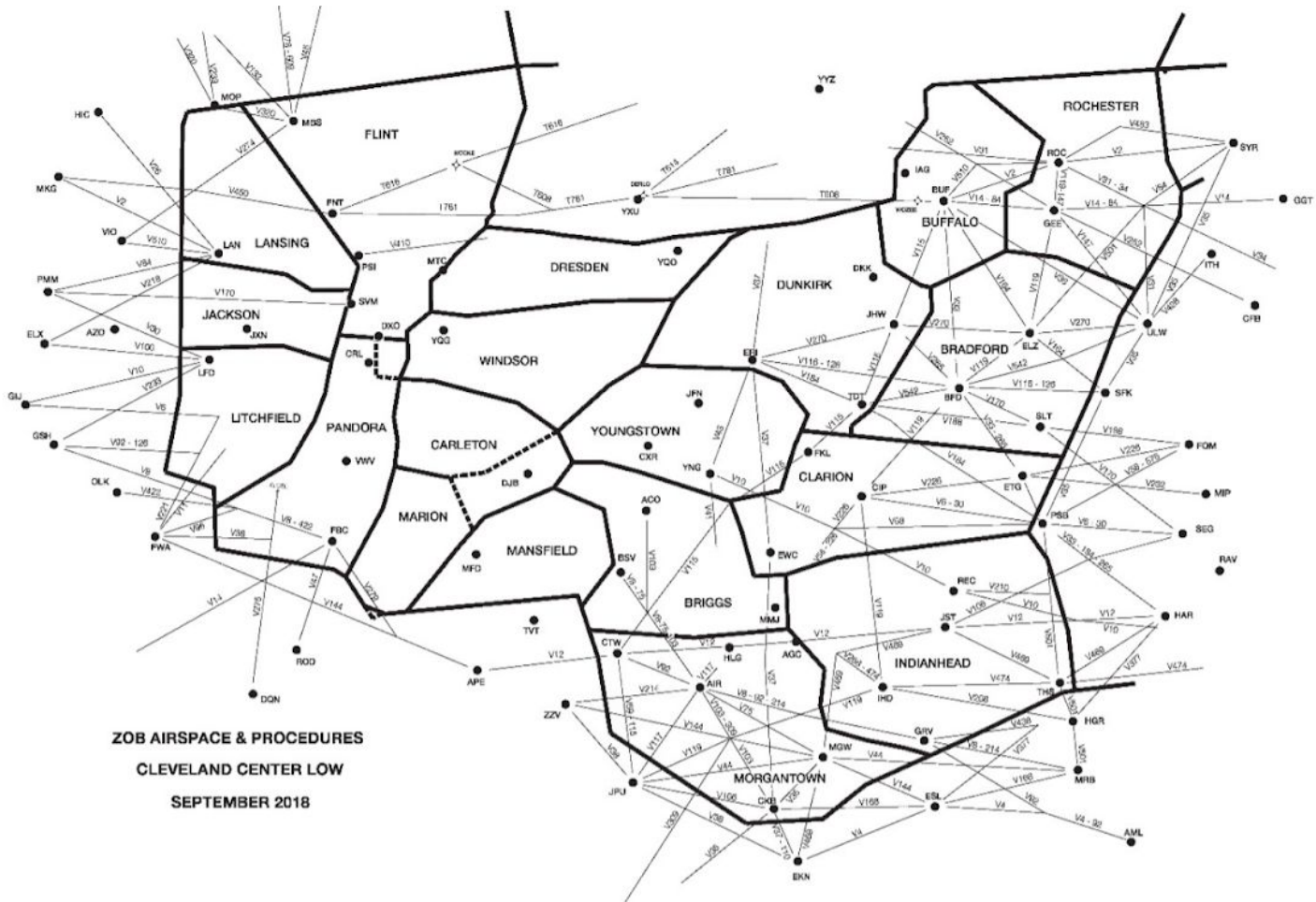
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36	KDTW and satellites	KLG Sector	ZEGBI or CCOBB SID	AOB FL220	ZAU has control for left turns AOA FL200. <i>(see note 1).</i>
		PMM/EMP Sectors	KAYLN SID		Aircraft must not exit the SID prior to SMUUV.
		south of J60 and requesting at or above FL240	SNDR SID (aircraft may be cleared no further direct than REEDA.)		ZAU has control for turns up to 30°. <i>(see note 1).</i>

NOTE 1: Procedures involving control for turns are subsequent to radar handoff & frequency change. Controller initiating turns is responsible for all additional coordination.

NOTE: All "SID assigned" speeds must be deleted or amended via ATC clearance prior to entering ZAU airspace. All speed restrictions coordinated via the 4th line of the data block "ATC assigned."

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ZOB AIRSPACE & PROCEDURES
CLEVELAND CENTER LOW
SEPTEMBER 2018

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ATTACHMENT 5- ZAU AIRSPACE

