

4/27/2026



Wisconsin Airport Operations and Land Use Seminar

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Presentation Overview

- Flight procedure development process
- Airport involvement & coordination
- Obstruction impacts on procedures
- Data sources used in decision-making
- VOR procedure future considerations
- Best practices & key concerns



SECTION 1: Flight Procedure Development Process

- Overview of Flight Procedure Development
 - Includes:
 - New procedures
 - Amendments (lower minimums, vertical guidance)
 - Driven by:
 - Safety
 - Access
 - Efficiency
 - Managed through a structured, multi-phase process

Development Process Steps

- Request/Identification of need [Instrument Flight Procedures Information Gateway](#)
- Feasibility assessment
- Data collection & validation
- Procedure design
- Environmental review (if required)
- Flight validation
- Publication



New vs. Amended Procedures

- New Procedures:
 - Add access to airports
 - Often GPS-based (RNAV/RNP)
- Amended Procedures:
 - Lower minimums
 - Add vertical guidance (LPV, LNAV/VNAV)
 - Require stricter obstacle clearance



Airport Involvement

- Airports may:
 - Initiate procedure requests
 - Provide justification (safety, access)
 - Support environmental review
- Coordinate with:
 - FAA Flight Procedures Team
 - Airport District Office (ADO)
 - State aviation agencies
 - Consultants



How Airports Stay Informed

- FAA procedure tracking systems (e.g., NFDD, internal coordination)
- Notices of Proposed Rulemaking (if applicable)
- Charting publications (e.g., amendments)
- Coordination with:
 - FAA regional offices
 - State aviation departments
- Industry groups and user feedback



SECTION 2: Obstruction Impacts

- Overview of Obstruction Impacts
 - Obstructions affect:
 - Minimum descent altitudes
 - Visibility requirements
 - Procedure availability
- Key concern: maintaining obstacle clearance surfaces

Loss of Night Authorization

- Occurs when:
 - Unlit obstacles penetrate protected surfaces
 - Lighting is inadequate or inoperative
 - Terrain/obstacle environment increases risk at night
- Result:
 - Procedure labeled “NA at night”



Loss of Vertical Guidance

- Caused by:
 - Obstacles penetrating vertical guidance surfaces (e.g., glidepath)
 - Trees, towers, construction
 - Temporary or permanent obstructions
- Impact:
 - LPV/LNAV-VNAV downgraded to LNAV
 - Higher minimums

Departure Surface Obstructions

- Matters when:
 - Obstructions penetrate:
 - Obstacle Departure Surfaces (ODS)
 - Diverse departure criteria
- Especially critical:
 - Close-in obstacles
 - High terrain
- Outcome:
 - Published ODPs (Obstacle Departure Procedures)
 - Climb gradients or restrictions

Notice to Airmen (NOTAM) vs. Permanent Change

- NOTAM issued when:
 - Temporary obstruction
 - Short-term construction
 - Lighting outages
- Permanent update when:
 - Obstruction is long-term or permanent
 - Impacts cannot be mitigated
 - Procedure redesign required



SECTION 3: Data Sources

- Flight Procedures rely on:
 - Aeronautical surveys
 - Airport Layout Plans (ALP)
 - Airport Master Record (Form 5010)
 - Digital obstacle data (DOF)
 - National Airspace System Resource (NASR) [Aeronautical Data](#)
 - AirNav – internal FAA aeronautical databased used for procedure development

Additional Data Inputs

- Terrain and elevation datasets
- Obstruction evaluation/airport airspace analysis (OE/AAA)
<https://ioeaaa.faa.gov/oeaaa/>
- Radar and navigation infrastructure data
- Pilot reports and operational feedback



SECTION 4: Airport Data and Information Portal(ADIP) & Data Management

- ADIP Runway Airspace Management Tool [Airport Data and Information Portal](#)
 - Used to evaluate runway airspace impacts
 - Helps identify:
 - Penetrations
 - Compatibility issues
 - Supports procedure development decisions

Importance of Data Accuracy

- Airports should:
 - Keep ALP current
 - Report new obstructions promptly
 - Maintain accurate runway data
- Why it matters:
 - Direct impact on procedure availability
 - Prevents loss of minimums or procedures



SECTION 5: VOR Procedures

- **Are VOR Procedures Going Away? No**
 - Gradual transition to GPS-based procedures
 - VOR Minimum Operational Network (MON) retained [Navigation Programs - Very High Frequency Omnidirectional Range Minimum Operational Network \(VOR MON\) | Federal Aviation Administration](#)
 - Some VORs being decommissioned



Factors for Retaining VOR Procedures

- Backup navigation capability
- Military and legacy aircraft needs
- Geographic coverage gaps
- Emergency operations



The FAA's criteria for VOR decommissioning include

[Register Notice: 81 FR 48694](#)

- Retain VORs to perform Instrument Landing System (ILS), Localizer (LOC), or VOR approaches supporting MON airports at suitable destinations within 100 NM of any location within the CONUS.
- Selected approaches would not require Automatic Direction Finder (ADF), Distance Measuring Equipment (DME), Radar, or GPS.
- Retain VORs to support international oceanic arrival routes.
- Retain VORs to provide coverage at and above 5,000 ft AGL.
- Retain most VORs in the Western U.S. Mountainous Area (WUSMA), specifically those anchoring Victor airways through high elevation terrain.
- Retain VORs required for military use.

The FAA's criteria for VOR decommissioning include

[Register Notice: 81 FR 48694](#) Continue

- VORs outside of the CONUS were not considered for discontinuance under the VOR MON Implementation Program.
- The following considerations were used to supplement the VOR MON criteria above:
- Only FAA owned/operated VORs were considered for discontinuance.
- Co-located DME and Tactical Air Navigation (TACAN) systems will generally be retained when the VOR service is terminated.
- Co-located communication services relocated or reconfigured to continue transmitting their services.

How Can Airports Advocate?

- Demonstrate operational need
- Provide usage data
- Coordinate with:
 - FAA
 - ADO
 - State aviation agencies
- Highlight lack of alternatives



SECTION 6: Best Practices & Considerations

- Best Practices for Airports
 - Maintain obstruction-free surfaces
 - Conduct regular surveys
 - Coordinate early on development projects
 - Monitor nearby construction



Areas of Emphasis

- Tree growth management
- Temporary construction cranes
- Lighting compliance
- Data accuracy across systems



Common Issues / Case Themes

- Loss of LPV due to tree growth
- Night restrictions from unlit towers
- Departure limitations from close-in obstacles
- Delays due to outdated ALP data
- Delay due to obstruction removal from ADIP



Key Concerns (Wisconsin / Regional Context)

- Seasonal vegetation growth
- Rural tower development
- Limited funding for obstruction removal
- Need for proactive planning



Final Takeaways

- Early coordination is critical
- Accurate data drives outcomes
- Obstruction management is ongoing
- Airports play a key role in maintaining access



Questions

- Open discussion

