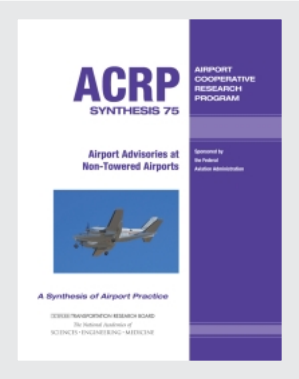


# Airport Advisories at Non-Towered Airports

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AIRPORT COOPERATIVE RESEARCH PROGRAM

# ACRP SYNTHESIS 75

# Airport Advisories at Non-Towered Airports

## *A Synthesis of Airport Practice*

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## AIRPORT COOPERATIVE RESEARCH PROGRAM

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Primary emphasis is placed on disseminating ACRP results to the intended users of the research: airport operating agencies, service providers, and academic institutions. ACRP produces a series of research reports for use by airport operators, local agencies, the FAA, and other interested parties; industry associations may arrange for workshops, training aids, field visits, webinars, and other activities to ensure that results are implemented by airport industry practitioners.

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**Cover photo:** General aviation aircraft on approach into a non-towered airport. *Source:* Eddie Maloney, Wikimedia Commons.

## FOREWORD

Airport administrators, engineers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to the airport industry. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire airport community, the Airport Cooperative Research Program authorized the Transportation Research Board to undertake a continuing project. This project, ACRP Project 11-03, "Synthesis of Information Related to Airport Practices," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute an ACRP report series, *Synthesis of Airport Practice.*

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

## PREFACE

*By Tanya M. Zwahlen*
*Consultant*
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*ACRP Synthesis 75: Airport Advisories at Non-Towered Airports* documents the manner in which non-towered airports provide advisories to pilots regarding winds, traffic, and runways in use. Unlike with pilot advisories, there is little guidance available for airport operators in providing airport advisories. The objective of this report is to aggregate available guidance on this topic and document information from non-towered airports with at least 50,000 annual aircraft operations. The report includes a literature review and a telephone interview survey of 165 non-towered airports. More detailed interviews were conducted and used to develop six case examples that document effective airport advisory programs in place at airports.

C. Daniel Prather, California Baptist University and DPrather Aviation Solutions LLC, Riverside, California, collected and synthesized the information and wrote the report. The members of the topic panel are acknowledged on the preceding page. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

# CONTENTS

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Note: Photographs, figures, and tables in this report may have been converted from color to grayscale for printing. The electronic version of the report (posted on the web at www.trb.org) retains the color versions.

# DEFINITIONS

ASOS—Automated Surface Observing System. This is a joint effort of the National Weather Service (NWS), FAA, and the Department of Defense (DOD). The ASOS comprises a standard suite of weather sensors and is available from a single vendor. The ASOS system serves as the nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations while supporting the needs of the meteorological, hydrological, and climatological research communities (ASOS 1999).

ATCT—Air traffic control tower.

ATIS—Automatic Terminal Information Service. Frequency on which a continuous broadcast of recorded noncontrol aeronautical information is available, typically at busier airports.

AWOS—Automated Weather Observing System. The AWOS is a suite of weather sensors of many different configurations that were procured by the FAA or purchased by the airport from three different vendors in the United States.

AWSS—Automated Weather Sensors System. This is an AWOS with improved sensor technology.

CFI—Certified flight instructor.

CTAF—Common traffic advisory frequency. A designated frequency for the purpose of carrying out airport advisory practices while operating to or from an airport that does not have a control tower or an airport where the control tower is not operational. The CTAF is normally a UNICOM, MULTICOM, flight service station (FSS) frequency, or a tower frequency.

FBO—Fixed-base operator.

FCC—Federal Communications Commission.

FSS—Flight service station. Air traffic facilities that provide pilot briefings, flight plan processing, in-flight radio communications, search and rescue (SAR) services, and assistance to lost aircraft and aircraft in emergency situations. FSSs also relay air traffic control (ATC) clearances, process Notices to Airmen (NOTAMs), broadcast aviation meteorological and aeronautical information, and notify Customs and Border Protection of transborder flights.

MULTICOM—A mobile service, not open to public correspondence use, used for essential communications in the conduct of activities performed by or directed from private aircraft.

NOTAM—Notice to Airmen.

Pilot advisories—Pilots communicate intentions in and around the airport traffic pattern.

PIREP—Pilot report.

UNICOM—A nongovernment air/ground radio communication station that may provide airport information at public-use airports where there is no tower or FSS. On pilot request, UNICOM stations may provide pilots with weather information, wind direction, the recommended runway, or other necessary information. If the UNICOM frequency is designated as the CTAF, it will be identified in appropriate aeronautical publications.

# AIRPORT ADVISORIES AT NON-TOWERED AIRPORTS


## SUMMARY

Airport advisories, although not always available at non-towered airports, provide useful information to pilots. Although air traffic controllers or Automatic Terminal Information Service (ATIS) provide this useful information to pilots at towered airports, such services are lacking at non-towered airports. Yet pilots remain in need of operationally relevant information, including current winds and runway(s) in use. The non-towered environment introduces its own hazards, so pilots are in need of operationally relevant information to enhance safety of flight. Non-towered airports providing airport advisories upon request (often through the UNICOM frequency) are able to provide this information to pilots.

This synthesis examines the provision of airport advisories at non-towered airports with at least 50,000 annual aircraft operations. The managers of 204 airports nationwide that met these criteria were contacted by phone and asked to complete a survey on this topic. The study garnered 165 responses, which equates to an overall response rate of 81%.

More than 90% of airports that participated in the study provide information to pilots via Automated Surface Observing System (ASOS)/Automated Weather Observing System (AWOS) and wind sock/segmented circle. Approximately one-third (35%) of participating airports provide audible airport advisories, typically through the UNICOM frequency. At 43% of participating airports, common traffic advisory frequency (CTAF) serves as UNICOM by sharing the same frequency.

According to 85% of participating airports, pilots generally adhere to published procedures, including traffic patterns. At 97% of participating airports, pilots consistently communicate their intentions over CTAF. At 54% of the airports, radio frequency interference (bleed over) is a problem, whereas 11% of the participating airports report it as only a slight problem.

Fully 95% of participating airports agree that audible airport advisories are necessary at non-towered airports. This is true even among the majority of non-towered airports currently not providing audible airport advisories, which indicates the perceived value in audible airport advisories by airport managers.

Various lessons learned include the efforts by airport staff to minimize runway incursions, including safety meetings; enhancements to the airfield, whether in the form of light-emitting diode lighting, new service roads that bypass the runway, enhanced runway safety area, or security fencing; encouragement of communication; pilot meetings; safety reminders; limited access; procedural enhancements; driver training; and additional signage.

Common ideas to change airport advisories in an effort to improve aviation safety include using proper phraseology, appending ASOS/AWOS broadcasts with current operationally relevant information as appropriate, and more effectively training personnel staffing the UNICOM station.

Key conclusions of the synthesis are:

1. Non-towered airports benefit from having a combined CTAF/UNICOM frequency or a separate UNICOM frequency on which airport advisories may be transmitted.
2. Non-towered airports equipped with an on-field AWOS or ASOS receive fewer requests for airport advisories. Having an AWOS or ASOS on the field appears to reduce the need for

audible airport advisories because AWOS/ASOS enables pilots to obtain current winds and select the appropriate runway based on this information.

3. Placing greater emphasis on the principle that airport advisories are only advisory in nature, rather than required instructions that convey control, is beneficial. The pilot in command remains in command of the aircraft.
4. Although a combined CTAF/UNICOM frequency has been known to cause confusion for pilots, airports with separate CTAF/UNICOM frequencies also have reported confusion on the part of pilots. It is beneficial to inform pilots fully about the frequencies in use.
5. To enhance the use of UNICOM and ensure that pilots benefit from airport advisory services when available, more education of pilots, ground vehicle operators, and UNICOM operators is warranted.
6. Airports may enhance safety by minimizing vehicle/pedestrian traffic on the movement area and ensuring that vehicle operators communicate on the appropriate frequency to announce intentions.
7. The low rate of airports issuing audible airport advisories may be the result of a lack of formal training of personnel and an underlying fear of liability by airports. In addition, airports offering ASOS/AWOS (whether appended or not) and/or wind sock/segmented circle generally consider them to be advisories.
8. Managers of these airports feel that by having a "pilot's point of view," the UNICOM operator can generate more useful airport advisories. Providing on-the-job training is standard and more effective for those non-pilots hired to staff the UNICOM station.
9. There is limited guidance available and little innovation on the delivery of airport advisories at non-towered airports.
10. It is beneficial to place emphasis on the concept that everyone on the airport can contribute to airport safety, including pilots, UNICOM operators, airport operators, fixed-base operators, and flight schools. All stakeholders have a vested interest in ensuring airport safety.

This report does not propose best practices or guidance but offers a synthesis of information from 165 non-towered airports nationwide in the area of airport advisories. Although practices vary and lessons learned differ, themes are identified that will be useful to enhancing safety at non-towered airports nationwide.

CHAPTER ONE

# INTRODUCTION

Aircraft pilots are required to obtain certain information to make informed decisions regarding the safety of flight. According to 14 CFR Part 91.103:

> Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—
>
> (a) For a flight under IFR [instrument flight rules] or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which the pilot in command has been advised by ATC [air traffic control];
> (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information;
> (1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data are required, the takeoff and landing distance data contained therein; and
> (2) For civil aircraft other than those specified in paragraph (b)(1) of this section, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature (FAA 2014a).

Prior to a flight, pilots can contact Flight Service to obtain a weather briefing and current Notices to Airmen (NOTAMs) and to file flight plans. Even after a briefing is obtained, changes may occur: weather conditions may change, new NOTAMs may be issued, airport runways in use may change, and en route hazards may develop. It is critical for pilots to continue to have access to weather information, even during the en route phase. This can be obtained from a number of sources, including Automatic Terminal Information Service (ATIS), Automated Weather Observing System (AWOS), Automated Surface Observing System (ASOS), ATC, or in-cockpit datalink and weather avoidance equipment. Flight Watch, which was used by pilots in the past, was discontinued October 1, 2015 [Aircraft Owners and Pilots Association (AOPA) 2015]. Compliance with 14 CFR Part 91.103 is possible whether pilots plan to operate into or out of towered or non-towered airports. In other words, the presence or lack of an air traffic control tower (ATCT) generally has no impact on pilot compliance with 14 CFR Part 91.103:

> In addition to 14 CFR Part 91.103, pilots must comply with 14 CFR Part 91.123:
>
> (a) When an ATC clearance has been obtained, no pilot in command may deviate from that clearance unless an amended clearance is obtained, an emergency exists, or the deviation is in response to a traffic alert and collision avoidance system resolution advisory. However, except in Class A airspace, a pilot may cancel an IFR flight plan if the operation is being conducted in VFR [visual flight rules] weather conditions. When a pilot is uncertain of an ATC clearance, that pilot shall immediately request clarification from ATC.
> (b) Except in an emergency, no person may operate an aircraft contrary to an ATC instruction in an area in which air traffic control is exercised.
> (c) Each pilot in command who, in an emergency, or in response to a traffic alert and collision avoidance system resolution advisory, deviates from an ATC clearance or instruction shall notify ATC of that deviation as soon as possible.
> (d) Each pilot in command who (though not deviating from a rule of this subpart) is given priority by ATC in an emergency, shall submit a detailed report of that emergency within 48 hours to the manager of that ATC facility, if requested by ATC.
> (e) Unless otherwise authorized by ATC, no person operating an aircraft may operate that aircraft according to any clearance or instruction that has been issued to the pilot of another aircraft for radar air traffic control purposes (FAA 2014a).

However, not all public-use airports are equipped with ATC. Most of the general aviation (GA) public-use airports in this country are not equipped with ATCTs. Of the 13,112 airports in the United States, only 123 have FAA ATCTs, whereas 252 have contract ATCTs (Curry 2015; U.S. Department of Transportation 2014). In addition, many of these airports may not be attended—at all or during certain time periods. As a result, pilots often operate into and out of non-towered airports without (1) ATC-provided information upon which to make decisions affecting safety of flight and (2) ATC instructions.

According to the AOPA (2003, p. 4):

> The basic difference between operating at a tower-controlled airport and one without an operating control tower is the difference between instructions and advisories. Tower controllers issue taxi, departure, and arrival instructions for pilots to follow on specific air traffic control frequencies. At non-towered airports, you will hear [pilot] advisories on a CTAF [and possibly airport advisories on UNICOM], but the responsibility for collision avoidance, sequencing, and knowing the local procedures lies solely with the pilot.

The advisories referenced at non-towered airports generally are in the form of pilot advisories, with pilots self-announcing their call sign, location, and intention. Yet safety is enhanced at non-towered airports with the addition of airport advisories. Generally broadcast by airport personnel, fixed-base operator (FBO) personnel, or other personnel upon request, airport advisories provide pertinent information, including winds, altimeter settings, and active runways in use to inbound and outbound pilots. A practice that further benefits pilots is broadcasting information affecting runways and airport safety, such as construction, wildlife, noise abatement, and unmanned aerial systems (drones).

As explained by the FAA (FAA 2014a, p. 4-1-2) in the *Aeronautical Information Manual* (AIM), 4-1-9, Traffic Advisory Practices at Airports Without Operating Control Towers, "There are three ways for pilots to communicate their intention and obtain airport/traffic information when operating at an airport that does not have an operating tower: by communicating with a FSS, a UNICOM operator, or by making a self-announce broadcast."

Within the previous quotation, the FAA is referencing two pilot actions: (1) communicating intentions and (2) obtaining airport/traffic information. For the purposes of this synthesis report, "communicating intentions" is referred to as "pilot advisories," which is not the subject of this report. "Obtaining airport/traffic information" is referred to as "airport advisories," which is the subject of this report. Pilots operating at non-towered airports are required to obtain current airport information and use the information to determine which runway to utilize. Without the benefit of ATC to provide airport information (either verbally or through ATIS) and takeoff or landing instructions, pilots must use a number of means to obtain this information and act upon it. Because of the myriad ways in which pilots obtain this information, including the differences among non-towered airports in making this information available, this synthesis focuses on airport advisories at non-towered airports.

This report presents findings on the manner in which airports (whether airport, FBO, or other personnel) provide advisories to pilots in the form of winds, traffic, runways in use, and so forth. Unlike pilot advisories, there is little guidance available for airport operators in providing airport advisories. This report attempts to aggregate available guidance on this topic.

Specifically, this synthesis considers the type of information pilots need to operate safely into and out of non-towered airports and the manner by which pilots obtain this information, with special emphasis on the manner by which airports provide this information in the form of airport advisories. All manner of equipment and facilities in use at these airports to convey such practical information as wind direction and velocity, favored or designated runway, altimeter setting, known airborne and ground traffic NOTAMs, airport taxi routes, airport traffic pattern information, and instrument approach in use were considered for this project. The synthesis includes a thorough review of the literature on the topic of airport advisories, findings from a telephone survey and follow-up interviews with management of non-towered airports with at least 50,000 annual aircraft operations [currently numbering 204 airports nationwide, according to GCR (GCR n.d.)], and a sampling of case examples of successful airport advisory programs in place at these airports.

This study examined the users of airport advisories (including pilots and ground vehicle operators); the current state of practice, including types of airport advisory programs in existence (including the entity responsible for providing airport advisories, the protocol for issuing advisories, training provided for those issuing advisories, frequency used, hours of advisories, and practices when advisories are not available); practices at airports without airport advisory programs; other facilities/visual aids/recordings in use at airports that may be used by pilots to obtain a form of airport advisory (AWOS/ASOS, segmented circle, wind sock, pilot reports); Aviation Safety Reporting System Reports related to UNICOM or airport advisory at the airport for the airports included in the study; lessons learned; and the future of airport advisories at non-towered airports.

CHAPTER TWO

# STUDY METHODOLOGY

Before data from airports on the topic of airport advisories was gathered for this synthesis, the literature on this topic was reviewed. Specifically, a search was conducted on the topic of airport advisories through Google, Google Scholar, TRID database [records from TRB's Transportation Research Information Services Database and the Joint Transport Research Centre's International Transport Research Documentation Database of the Organisation for Economic Co-operation and Development (OECD)], FAA website, and OneSearch (powered by EBSCO).

Next, the population for this synthesis was clearly defined. Because of the focus on airport advisories, only non-towered airports were included. In addition, a minimum number of annual aircraft operations of 50,000 was established. The Airport Master Record database (GCR n.d.) was used to define the specific study population of airports, which numbered 204 (see Appendix A).

As of May 2015, there were 204 airports in the United States that met the criteria (non-towered with at least 50,000 annual aircraft operations); they represent each of the nine FAA regions and 38 states (see Table 1 and Figure 1).

To gather the intended data, a telephone interview script was developed (see Appendix B). To ensure a higher response rate and rich data collection, the telephone interview was chosen rather than a more typical online or mailed survey. It was thought that speaking with participants in an open-ended fashion likely would enable greater insight than would the use of an instrument with close-ended questions. The interview script was intended to gain insight into current practices at these non-towered airports regarding airport advisories. The script was developed with insight from the project panel.

The airport manager of each airport selected for the study was contacted by telephone during June, July, or August 2015. The interview script was used to guide each phone call. If the airport manager answering the call indicated that the FBO, flight school, or other organization was responsible for issuing airport advisories, that entity was contacted. A total of 165 responses were obtained, resulting in an 81% response rate.

In addition to the initial telephone interviews, the study included a second phase in which a few willing and interested participants were contacted a second time, and a case example interview script was used (Appendix C). These airports were selected in a purposeful way. They represent a geographically diverse set of airports of various sizes (based on operations) and those with stand-alone UNICOM or combined CTAF/UNICOM frequency. The goal during this second phase was to gain more insight into successful airport advisory practices at some of the participating airports and determine lessons learned and most effective practices used.

TABLE 1
AIRPORTS TO BE SURVEYED BY STATE AND FAA REGION

| State | Number of Airports (Non-towered and at Least 50,000 Annual Operations) | FAA Region |
|---|---|---|
| Alabama | 9 | Southern |
| Alaska | 3 | Alaskan |
| Arizona | 7 | Western-Pacific |
| Arkansas | 5 | Southwest |
| California | 25 | Western-Pacific |
| Colorado | 6 | Northwest Mountain |
| Florida | 18 | Southern |
| Georgia | 3 | Southern |
| Idaho | 3 | Northwest Mountain |
| Illinois | 6 | Great Lakes |
| Indiana | 1 | Great Lakes |
| Kansas | 1 | Central |
| Kentucky | 1 | Southern |
| Louisiana | 8 | Southwest |
| Maine | 1 | New England |
| Maryland | 1 | Eastern |
| Massachusetts | 3 | New England |
| Minnesota | 4 | Great Lakes |
| Mississippi | 1 | Southern |
| Missouri | 2 | Central |
| Nebraska | 1 | Central |
| Nevada | 4 | Western-Pacific |
| New Jersey | 4 | Eastern |
| New Mexico | 1 | Southwest |
| New York | 6 | Eastern |
| North Carolina | 9 | Southern |
| Ohio | 14 | Great Lakes |
| Oklahoma | 4 | Southwest |
| Oregon | 5 | Northwest Mountain |
| Pennsylvania | 3 | Eastern |
| South Carolina | 4 | Southern |
| Tennessee | 5 | Southern |
| Texas | 11 | Southwest |
| Utah | 4 | Northwest Mountain |
| Virginia | 4 | Eastern |
| Washington | 12 | Northwest Mountain |
| Wisconsin | 4 | Great Lakes |
| Wyoming | 1 | Northwest Mountain |
| Total | 204 | |


FIGURE 1 Surveyed airports by FAA region.

CHAPTER THREE

# LITERATURE REVIEW

Much of the literature on airport advisories focuses on pilot communications: that is, radio calls in the traffic pattern regarding pilot intentions. The authors of this report endeavored to determine the degree, and in what manner, airports (whether FBO, airport, or other personnel) provide advisories to pilots transmitting "request airport advisory" by means of the radio [typically the Common Traffic Advisory frequency (CTAF), UNICOM (Universal Communications), or a combined CTAF/UNICOM].

The CTAF is defined as:

> A designated frequency for the purpose of carrying out airport advisory practices while operating to or from an airport that does not have a control tower or an airport where the control tower is not operational. The CTAF is normally a UNICOM, MULTICOM, flight service station (FSS) frequency, or a tower frequency (FAA 1990, p. 1).

As a stand-alone frequency, CTAF is intended to serve the needs of pilots to communicate intentions with other pilots. A stand-alone CTAF generally would not be used for the issuance of airport advisories.

UNICOM is defined as:

> A nongovernment air/ground radio communication station which may provide airport information at public use airports where there is no tower or FSS. On pilot request, UNICOM stations may provide pilots with weather information, wind direction, the recommended runway, or other necessary information. If the UNICOM frequency is designated as the CTAF, it will be identified in appropriate aeronautical publications (FAA 2014a, p. 4-1-4).

FAA explains that if UNICOM is unavailable, "wind and weather information may be obtainable from nearby controlled airports via Automatic Terminal Information Service (ATIS) or Automated Weather Observing System (AWOS) frequency" (FAA 2014a). Admittedly, this option may not be available to a pilot, depending on the location of the airport and its proximity to the pilot's location.

MULTICOM is defined as:

> A mobile service, not open to public correspondence use, used for essential communications in the conduct of activities performed by or directed from private aircraft (FAA 1990, p. 1).

A MULTICOM is not intended to be used for communication of airport advisories because it is a private frequency.

Flight Service Stations (FSSs) are defined as:

> Air traffic facilities which provide pilot briefings, flight plan processing, inflight radio communications, search and rescue (SAR) services, and assistance to lost aircraft and aircraft in emergency situations. FSSs also relay Air Traffic Control (ATC) clearances, process NOTAMs, broadcast aviation meteorological and aeronautical information, and notify Customs and Border Protection of transborder flights (FAA 2015, para. 3).

With the move toward automating FSSs to off-airport sites, their role in providing airport advisories has been reduced. The FAA has minimized costs with the automation of FSS, but this has placed the responsibility of providing airport advisories on the airport operator at airports that previously had an FSS on-airport.

## OVERVIEW

An airport may have a full-time or part-time ATCT or FSS located on the airport, a full-time or part-time UNICOM station, or no aeronautical station. At airports without an ATCT (non-towered), pilots may have one or more options (ranging from the most traditional to more technologically advanced) for obtaining useful airport information, including winds and runway(s) in use:

1. Observing the segmented circle
2. Communicating with FSS
3. Communicating with UNICOM operator
4. Communicating on CTAF
5. Communicating on a combined CTAF/UNICOM
6. Listening to AWOS/ASOS
7. Using automated UNICOM
8. Using Super AWOS Plus Automated UNICOM (Super AWOS).

### Observing the Segmented Circle

The first option, observing the segmented circle, is possibly the lowest-tech option, requiring the least amount of funds for ongoing maintenance. According to the AIM, "At those airports without an operating control tower, a segmented circle visual indicator system, if installed, is designed to provide traffic pattern information" (FAA 2014a, p. 4-3-5). The segmented circle visual indicator system consists of, at a minimum, a segmented circle with a conventional wind cone at the center. Additional components may include:

1. Landing direction indicator
2. Landing strip indicators
3. Traffic pattern indicators
4. Right-turn indicators
5. Closed field signal (FAA 2013b, p. 2).

The segmented circle is designed to aid pilots in locating airports and also provide a centralized location for this system on the airport. Common at GA airports, the segmented circle is located at a position to provide maximum visibility to pilots in the air and on the ground (see Figure 2).

### Communicating with FSS

The second option, communicating with FSS, was once a common occurrence at airports with an on-field FSS (Figure 3). Today this is not common, especially in light of the consolidation of on-airport

FIGURE 2 Segmented circle system (*Source*: Money Turf Aviation).

FIGURE 3 Flight service specialist (Courtesy of FAA).

FSS toward Automated FSS that began in the early 1980s. Granting the FSS contract to Lockheed Martin has hastened this process (Kraus and Waite n.d.).

#### Communicating with UNICOM Operator

The third option, communicating with an on-airport UNICOM operator, is quite common. Of the 204 airports included in the study, 188 (representing 92%) have an assigned UNICOM frequency. UNICOM is a physical station, possibly an aeronautical radio in the airport manager's office or the FBO, and is staffed by one or more individuals. UNICOM, during operating hours, provides airport advisories, including winds and runway(s) in use. This frequency may also be used by pilots to request fuel, catering, courtesy car, and so forth. Pilots sometimes equate UNICOM to Aircraft Communications Addressing and Reporting System (ACARS), developed by Aeronautical Radio, Incorporated (ARINC), but UNICOM is not as sophisticated. UNICOM is a frequency that allows a pilot to communicate with a ground station, rather than simply other pilots (which is typical with CTAF) (Figure 4).

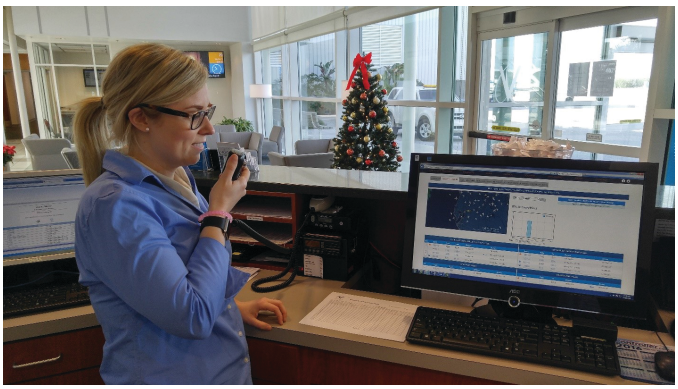

FIGURE 4 UNICOM operator (*Source*: Skyport Holdings Tampa, LLC dba Volo Aviation).

According to the AOPA (AOPA n.d., para. 3):

> Originally, 122.8 MHz was the standard UNICOM frequency for all airports. As flying activity and the number of airports increased, 122.7 MHz and 123.0 MHz were added to accommodate the increased traffic. Although three UNICOM frequencies were unable to handle the general aviation traffic, additional frequencies were unavailable. Unfortunately, the aeronautical frequency spectrum was fully committed as a result of the increased air traffic demand. To open up more frequency channels, the existing aeronautical frequency spectrum of 118 MHz to 136 MHz, consisting of 360 channels with a 50 kHz bandwidth, was reduced to 25 kHz bandwidth, thus creating 720 channels. AOPA successfully lobbied for additional frequencies when this change took place. Four more UNICOM frequencies became available: 122.725 MHz, 122.975 MHz, 123.050 MHz, and 123.075 MHz.

There are great variations in the quality of airport advisories and the training of staff issuing the advisories by means of the UNICOM. In addition, some confusion exists among student pilots and pilots as to the degree of control a UNICOM operator possesses. Indeed, UNICOM does not issue landing or takeoff clearances and is not the equivalent of ATC. UNICOM operates only in an advisory capacity. Consider the following true story as presented in the December 2000 issue of AOPA *Flight Training*:

> A student pilot, flying solo in four-mile visibility, was five miles from a non-towered airport when he called unicom [sic] to get an advisory. The Unicom [sic] operator said that the active runway was 32, right-hand traffic, and that there was a light crosswind. The student acknowledged the advisory and set up for a 45-degree entry to downwind for Runway 32. As he turned downwind, he saw the glare of a landing light ahead and suddenly realized he was set up for a head-on collision with a Cessna 172.
>
> The Cessna was on downwind for Runway 14, and the two aircraft missed one another by about 100 feet. Not far behind the Cessna was a Piper Cherokee also on downwind for Runway 14. The Cherokee pilot had to take evasive action. The unicom [sic] frequency bristled with angry voices saying the active runway was 14. Totally confused, the student pilot departed the pattern in the wake of reprimands from the pilots with whom he had just had a close encounter. Somewhat shaken, the student entered the pattern for Runway 14 and landed safely.
>
> A CFI who had been on board the Cherokee talked to the student on the ground. The student had some interesting notions of the responsibilities and authority of the unicom [sic] operator. He believed the unicom [sic] operator was much like a tower air traffic controller who directs pilots to land on specific runways. The student didn't hear any position reports on the unicom [sic] frequency from aircraft that were in the pattern for Runway 14. He believed he had been directed to land on Runway 32 by the unicom [sic] operator, and by God that's what he was going to do.
>
> The instructor made it clear to the student that the unicom [sic] provides airport advisories about wind speed and direction and the runway most favorable for those wind conditions. The unicom [sic] operator does not provide a clearance to land. This person is usually a desk clerk at the FBO who is scheduling airplanes, selling products, processing charges, and answering the phone in addition to providing airport advisories over the unicom [sic] frequency. Chances are the person isn't even a pilot.
>
> In this case, the unicom [sic] operator had been too busy to pay attention to what runway pilots were using, and she simply saw from the wind instruments that the light crosswind was favoring Runway 32. She reported this to the student.
>
> This was a valuable lesson for the student pilot. He learned that the unicom [sic] is not a control tower. He learned the importance of observing aircraft in the pattern, listening to their position reports, and visually determining the runway in use.
>
> The traffic flow at non-towered airports functions well when pilots work together by observing what's going on in the traffic pattern, by listening to the common traffic advisory frequency for other aircraft reporting their positions, and by announcing their own positions as well. The unicom [sic] report is a place to start, but it must be supplemented with looking and listening when approaching a non-towered airport (Hiner 2000, para. 1-7).

Two lessons may be learned from this story. First, the UNICOM operator may not have had sufficient training or was too distracted to issue an accurate airport advisory. Indeed, the advisory issued may be completely contradictory to the flow of current aircraft traffic at that airport. Second, the UNICOM operator only advises pilots but does not issue clearances. Further, pilots greatly benefit by supplementing airport advisories issued by UNICOM by, for example, listening to CTAF radio transmissions and observing the airport wind sock and traffic flow. At non-towered airports, pilots and ground vehicle operators can be more involved in airport safety by speaking up to correct an inaccurate UNICOM broadcast. It is in their best interest to do so, if appropriate.

Within the AIM, FAA presents suggested UNICOM communication procedures for pilots:

> 1. In communicating with a UNICOM station, the following practices will help reduce frequency congestion, facilitate a better understanding of pilot intentions, help identify the location of aircraft in the traffic pattern, and enhance safety of flight:
>    (a) Select the correct UNICOM frequency.
>    (b) State the identification of the UNICOM station you are calling in each transmission.

(c) Speak slowly and distinctly.
(d) Report approximately 10 miles from the airport, reporting altitude, and state your aircraft type, aircraft identification, location relative to the airport, state whether landing or overflight, and request wind information and runway in use.
(e) Report on downwind, base, and final approach.
(f) Report leaving the runway.

2. Recommended UNICOM phraseologies:
   (a) Inbound
   PHRASEOLOGY–
   FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT 10 MILES SOUTHEAST DESCENDING THROUGH (altitude) LANDING FREDERICK, REQUEST WIND AND RUNWAY INFORMATION FREDERICK. FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT ENTERING DOWNWIND/BASE/FINAL (as appropriate) FOR RUNWAY ONE NINER (fullstop/touch–and–go) FREDERICK. FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT CLEAR OF RUNWAY ONE NINER FREDERICK.
   (b) Outbound
   PHRASEOLOGY–
   FREDERICK UNICOM CESSNA EIGHT ZERO ONE TANGO FOXTROT (location on airport) TAXIING TO RUNWAY ONE NINER, REQUEST WIND AND TRAFFIC INFORMATION FREDERICK. FREDERICK TRAFFIC CESSNA EIGHT ZERO ONE TANGO FOXTROT DEPARTING RUNWAY ONE NINER. "REMAINING IN THE PATTERN" OR "DEPARTING THE PATTERN TO THE (direction) (as appropriate)" FREDERICK (FAA 2014a, p. 4-1-5).

In both of these instances, the pilot is requesting wind and either runway information (inbound) or traffic information (outbound). The person staffing the UNICOM is the individual tasked with providing this information to the pilot.

#### Communicating on CTAF

The fourth option, communicating on CTAF, is extremely common but generally not for the purposes of obtaining an airport advisory. This frequency is used by pilots to self-announce their intentions by communicating with other pilots in the vicinity of the airport. Pilots monitoring CTAF can learn about the runway(s) in use by listening to position reports and intentions of other pilots but likely will not gain information about current winds. In essence, airport advisories generally are not available on CTAF.

#### Communicating on a Combined CTAF/UNICOM

The fifth option, communicating on a combined CTAF/UNICOM, occasionally exists at airports. In this case, the same frequency is shared by CTAF and UNICOM. Although this can be confusing to pilots, airports with separate frequencies have also reported confusion on the part of pilots. In essence, when a pilot contacts a combined CTAF/UNICOM, who the pilot is speaking to depends on what is said. If the pilot calls "traffic," the pilot is speaking to pilots of other aircraft. This is common when self-reporting a position and intention. The pilot does not expect a response from other aircraft. However, when the pilot calls "UNICOM," the pilot is speaking to the UNICOM operator and expects a response from someone at a ground station.

In summary, the airport facilities, in the form of the aeronautical station or CTAF, often guide pilot behavior. As one pilot explained on StudentPilot.com:

> It's not "wrong" to ask for an advisory on UNICOM. The issue is more about the quality of the information you can expect to receive. There are some airports where the quality is very high; there are others where the quality is very low or non-existent. Traditionally "good" UNICOM people give information about winds and the runway in use (note that does not mean the best or favored runway). Thus, the information UNICOM gives has become less important and AWOS stations have become more prevalent. A personal preference, but my practice is not to call UNICOM unless I need something ("UNICOM, do you have a courtesy car available?"). I can get the winds from AWOS. I can get the runway predominantly in use from listening to the CTAF (they might not be the same). If there's nothing to listen to on the CTAF then I choose the runway indicated by the winds on AWOS or a preferential runway system described in the A/FD (posted by user midlifeflyer on http://studentpilot.com/interact/forum/showthread.php?22244-Difference-between-CTAF-and-Unicom, 2005).

### Listening to AWOS/ASOS

The sixth option available to pilots is listening to AWOS/ASOS. These two products, although similar in concept, do have differences. The ASOS is a product of a joint venture of the National Weather Service (NWS), Department of Defense (DoD), and FAA. The ASOS comprises a standard suite of weather sensors and is available from a single vendor. The AWOS is a suite of weather sensors of many different configurations that were procured by FAA or purchased by the airport from three vendors in the United States.

AWOS/ASOS is common for obtaining current airport weather but generally not for obtaining an airport advisory. However, some airports are able to audibly append broadcasts with current information. Information such as runway/taxiway closures, construction activity, wildlife activity, skydiving activity, unmanned aerial systems (drones) activity, and signs or lights out of service represent the types of information that may be broadcast by means of AWOS/ASOS in an appended fashion. Although some of this information is also available through the NOTAM system, generally with several days of advance notice, some airport managers point out that pilots operating at their airport do not regularly check NOTAMs. Thus, these airports have found it effective to place this information on AWOS/ASOS with an appended broadcast. It is in the interest of the airport to verify with the FAA whether NOTAMs may be audibly appended to the AWOS/ASOS broadcast. Some dynamic activity, such as skydiving, may require constantly changing updates by airport staff, and providing this information through an appended AWOS/ASOS broadcast can be most effective.

Specifically regarding skydiving activity, the FAA states there are more than 300 active skydiving centers and clubs in the United States operating more than 500 skydiving aircraft, referred to as jump planes. The FAA partnered with the U.S. Parachute Association to create a pamphlet and video, both of which are titled "Flying for Skydive Operations." The purpose of these informational materials is to describe specific flight operations and safety issues that are needed when flying skydivers. Although the materials are meant for the jump plane pilot, airport management with skydiving activity on airport also will benefit from this information (FAA 2000).

Even without appended broadcasts, as current winds generally determine the runway(s) to use, the weather report can be useful in determining which runway(s) to use. According to the FAA (FAA n.d., p. 4-3-28), "At uncontrolled airports that are equipped with ASOS/AWSS/AWOS with ground-to-air broadcast capability, the one-minute updated airport weather should be available to you within approximately 25 NM of the airport below 10,000 feet."

However, pilots may be using a runway that prevailing winds do not favor, which explains the only partial usefulness of AWOS/ASOS for obtaining an airport advisory (Figure 5).

### Using Automated UNICOM

The seventh option, interacting with an automated UNICOM, provides automation to a common UNICOM station. Specifically, an automated UNICOM generally provides weather (altimeter, visibility, wind, crosswinds, wind shear); preferred runway based on current conditions; and automatic radio "echo-check." Pilots activate the automated UNICOM with radio clicks (three clicks for weather; four clicks for radio check). According to FAA (FAA 2014a, p. 4-1-9):

> Many airports are now providing completely automated weather, radio check capability and airport advisory information on an automated UNICOM system. These systems offer a variety of features, typically selectable by microphone clicks, on the UNICOM frequency. Availability of the automated UNICOM will be published in the Airport/Facility Directory and approach charts.

This option allows a non-towered airport to provide the two most common components of an airport advisory (runway in use and radio check) in an automated fashion, negating the need to staff a UNICOM station. Airports equipped with this technology have the ability to issue airport advisories in an automated fashion, thus negating the need to staff a UNICOM station with trained personnel.

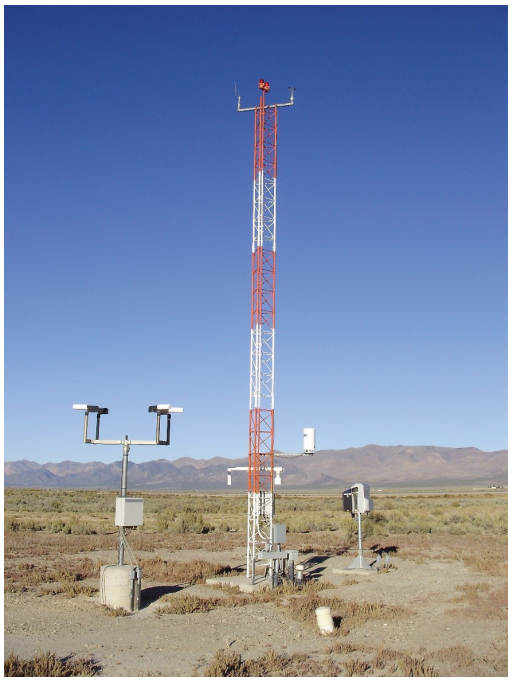

FIGURE 5 AWOS (*Source*: Wikimedia, Famartin).

Although benefits are apparent with a human voice that can respond to unique requests, the automated UNICOM frequency can enable a non-towered airport to provide radio checks and airport advisories with fewer staff, while enhancing safety at the airport.

#### Using AWOS Plus Automated UNICOM (Super AWOS)

The eighth option, interacting with an AWOS plus automated UNICOM (Super AWOS), provides more information than an automated UNICOM but in a similar fashion. Super AWOS provides all the services of a traditional AWOS but also greets pilots, provides runway-in-use advisories, provides radio "echo-check" capabilities, and advises pilots of traffic in the area. The Super AWOS is able to detect traffic in the local area and inform pilots of the Super AWOS, along with instructions on how to use it, such as "Good Morning. Potomac Airfield, automated UNICOM. Click your mic three times for an advisory, four times for a radio check" (Potomac Aviation n.d.).

### Emerging Technology

#### Automated Micro Tower

Interacting with an automated micro tower allows pilots to receive ATC-like services at a non-towered airport. This innovative self-contained system serves as an automated control tower and a weather service. By means of artificial intelligence, a micro tower knows the airport's runways, approaches, and traffic patterns; is able to monitor the CTAF; and continually senses real-time weather conditions. What makes this option unique is that the micro tower is able to listen to aircraft communications and respond appropriately. This is the first step for a non-towered airport in moving toward a towered environment in an economical fashion. No personnel are needed to operate the micro tower. Indeed, one provider produces a 100% solar, global modem-supported unit (Potomac Aviation Technology n.d.).

## Emerging Technology

### Remote Tower

Interacting with a remote tower is the most advanced and expensive option for an airport, but like the micro tower, a remote tower allows an airport to introduce ATC-like services at a non-towered airport. Unlike the micro tower, this option allows for human input into the airport environment. It is not automated; rather it is an air traffic control tower staffed from a distance—that is, remotely. This option allows an airport to have an air traffic control tower without the need to staff the tower. Controllers at a remote location can handle operations at multiple airports, introducing significant efficiencies into the process. This option is even more cost-effective than a contract tower.

Remote towers are currently in place at various locations around the world. The first was installed at Örnsköldsvik Airport in Sweden, which is the first airport in the world to be controlled from a distance. High-resolution digital video cameras, meteorological sensors, microphones, and other devices at the remote airport are linked in real time to the remote tower center. At the staffed remote tower center, images from the remote airport are projected onto panoramic liquid crystal display screens that can provide a complete 360° view. In essence, rather than an air traffic controller viewing traffic from the control tower cab window, the air traffic controller views traffic on a screen from a remote location ("Remote control" 2013).

Controllers at the remote tower center have complete control over all sensors, lighting, alarms and other tower systems at the remote airfield, as well as air traffic management tools. All surveillance video footage can be recorded and stored to allow for future retrieval. This can be helpful, such as in an accident investigation. According to vendors of this technology, the remote tower operation is completely transparent to pilots. In other words, pilots would not necessarily know that the controllers with whom they are communicating are located at a remote, off-airport location ("Remote control" 2013).

In the United States, Leesburg Executive Airport is the site of the FAA's first test of a remote tower, in cooperation with Saab Sensis Corporation. According to an October 2015 article in *USA Today*,

> Leesburg Executive Airport has 14 high-definition cameras from Saab mounted in a crow's nest that feed video to 55-inch television screens in a windowless room at the airport. The screens replicate the 360-degree view from a standard tower. Compressed air blows rain or bugs off the glass to keep the view clear. Two microphones pipe in the sound of jet engines revving (Jansen 2015).

If this test is successful, additional airports throughout the United States could benefit from this technology. FAA also recently announced that Fort Collins–Loveland Municipal Airport in Colorado will be a similar test site in 2016. Cost savings and enhanced airport safety appear to be driving these efforts. According to Paul Rinaldi, president of the National Air Traffic Controllers Association, "I think this technology gives us the ability to expand air-traffic control and enhance the safety of the system" (Jansen 2015, para. 20).

## RESEARCH

Little research has been conducted on airport advisories. Most research on operations at non-towered airports focuses on the role of the pilot in ensuring safety of flight. Other research presents the integration of technology to benefit users in light of the larger national airspace system. Still other research points out the GA aircraft accident rate with a focus on communications as a causal factor. The lack of research on airport advisories is important because it points to the general focus on the role of pilots, rather than that of airports and UNICOM operators, in non-towered airport safety.

Sloan (2000), in a study on collision avoidance at non-towered airports, argues that "the number of collisions and fatalities at non-towered airports indicates that there is room for improvement in the area of safety regarding the procedures for operating at such airports" (p. 70). Sloan's study also considered how flight instructors teach entries to the traffic pattern to their student pilots. To reduce the risk of operating at non-towered airports, Sloan suggests a number of methods (including

checking NOTAMs and reviewing the Aviation Forecast Discussions) but does not recommend use of UNICOM to request an airport advisory.

Colavito et al. (2014) discussed the infrastructural deficiencies at non-towered airports. The authors argued that "shortfalls" exist at these non-towered airports that negatively affect operations in the areas of flight delay, extended flight paths, and safety. The authors proposed an Integrated Communication, Navigation, and Surveillance (ICNS) system at these airports to stimulate a more efficient national airspace system. Just what type of ICNS, funding, and the extent of the system are open to interpretation.

According to the 24th Joseph T. Nall Report, produced by the AOPA, the 1,402 GA aircraft accidents in 2012 resulted in 378 fatalities. The Nall Report states that 75% of noncommercial fixed-wing accidents were found to be pilot related, and 74% of noncommercial helicopter accidents were found to be pilot related. Commercial fixed-wing and commercial helicopter accidents found to be pilot related represent 73% and 69% of accidents in these groups, respectively. As defined by the report, pilot-related accidents refer to those arising "from the improper actions or inactions of the pilot" (AOPA 2015, p. 12). Most pilot-related accidents were caused by inadequate or inaccurate flight planning or decision-making or the hazards present during the high-risk phases of flight (such as landing and takeoff). Landing accidents continue to outnumber takeoff accidents by more than two to one. Although these pilot-related causes represent about three-quarters of GA accidents, the report does not reference airport advisories as a cause.

## GUIDANCE

Much of the guidance in the area of airport advisories actually refers to pilot advisories, which is not the primary focus of this synthesis. There is a general lack of guidance for airports in the proper way in which to issue airport advisories to pilots. Even so, it is important for airport operators and, more specifically, UNICOM station operators to be familiar with the guidance that applies to non-towered airports, even if that guidance is also appropriate to pilots. Table 2 presents a listing of guidance on this topic, which is summarized in this chapter.

TABLE 2
GUIDANCE

| | |
|---|---|
| Grant Assurance 19: Operation and Maintenance | Requires airports at all times to be operated in a safe and serviceable condition. |
| 14 CFR Part 91.113: Right-of-Way Rules | Addresses aircraft right-of-way rules, which are clearly applicable in a non-towered airport environment. |
| AC 150/5210-20: Ground Vehicle Operations on Airports | Provides guidance to airports in developing a ground vehicle operator training program and provides immediate guidance useful to ground vehicle operators driving vehicles at non-towered airports. |
| FAA Guide to Ground Vehicle Operations | Promoted by the FAA as "A Comprehensive Guide to Safe Driving on the Airport Surface" (FAA n.d.). Presents suggestions for ground vehicle operators at non-towered airports. |
| AC 90-66A: Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers | Presents regulatory requirements and recommended procedures for aeronautical operations at airports without operating control towers. Recommends traffic patterns and operational procedures for aircraft that are beneficial for ground vehicle operators and airport operators. |
| AC 90-42F: Traffic Advisory Practices at Airports Without Operating Control Towers | Presents ways in which pilots communicate their intentions and obtain airport/traffic information when operating at non-towered airports, which is useful for UNICOM operators. |
| Aircraft Owners and Pilots Association (AOPA) Safety Advisor | Presents recommendations for aircraft operations at non-towered airports, including requesting airport advisories from the UNICOM station. |
| FAA Pilot Handbook, Chapter 13—Airport Operations | Discusses use of visual wind indicators and segmented circle visual indicator system by pilots, which is useful for operators of non-towered airports. |
| 47 CFR Part 87.213 | FCC regulation governing aeronautical advisory stations. |

#### Grant Assurance 19: Operation and Maintenance

Federally obligated airports must comply with FAA grant assurances. Specifically, Grant Assurance 19 requires:

> The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation (FAA 2014b, p. 9).

Non-towered airports must consider how to operate in a safe manner, especially in light of the hazards associated with aircraft operating in a non-towered environment.

#### 14 CFR Part 91.113: Right-of-Way Rules

Although 14 CFR Part 91 applies to pilots, and not necessarily to airports, it is beneficial to be aware of the pilot requirements spelled out in Part 91, especially as they may pertain to airport advisories. 14 CFR Part 91.113 addresses aircraft right-of-way rules, which are clearly applicable in a non-towered airport environment. 14 CFR Part 91.113 requires pilots to see and avoid other aircraft. Although 14 CFR Part 91.113 does not address vehicles, whether from the pilot's or vehicle driver's perspective, the FAA (FAA 2002) states,

> Every year there are accidents and incidents involving aircraft, pedestrians, and ground vehicles at airports that lead to property damage and injury, which may be fatal. Many of these events result from inadequate security measures, failure to maintain visual aids, a lack of such aids, and inadequate vehicle operator training.

#### AC 150/5210-20: Ground Vehicle Operations on Airports

Advisory Circular (AC) 150/5210-20 provides guidance for ground vehicle operators at airports. Although the purpose of this AC is mainly to provide guidance to airports in developing a ground vehicle operator training program, it provides immediate guidance useful to ground vehicle operators driving vehicles at non-towered airports, often airport maintenance/operations/aircraft rescue firefighting (ARFF) personnel. Within this AC, the FAA stresses that "aircraft ALWAYS have the right of way over vehicles" (FAA 2002, p. 3). The FAA states that, "two-way radio control between vehicles and fixed-base operators or other airport users should avoid frequencies used by aircraft" (FAA 2002, p. 3). Following this advice will minimize frequency congestion and allow frequencies to be used as intended. In other words, discussing mowing plans or lunch breaks on CTAF is discouraged.

Airports are encouraged by the FAA to develop rules and regulations pertaining to vehicle operations. In addition, the FAA notes that loss of situational awareness on the part of ground vehicle operators is a contributing factor in runway incursions and aircraft–vehicle collisions on the airfield. Within this AC, the FAA recommends ways to enhance driver situational awareness.

#### FAA Guide to Ground Vehicle Operations

The FAA has also produced "FAA Guide to Ground Vehicle Operations: A Comprehensive Guide to Safe Driving on the Airport Surface" (FAA n.d.). Of particular importance to readers of this report, the FAA guide presents suggestions for ground vehicle operators at non-towered airports and identifies most effective practices. Specifically, the FAA recommends that ground vehicle operators not only monitor the airport frequency but also broadcast intentions so that pilots operating at or in the vicinity of the airport will be aware of the ground vehicle operator's intentions.

#### AC 90-66A: Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports Without Operating Control Towers

In AC 90-66A, the FAA encourages pilots to supplement airport advisories with all available information, including "visual indicators, such as the segmented circle, wind direction indicator, landing

direction indicator, and traffic pattern indicators which provide traffic pattern information" (FAA 1993, p. 2). This guidance supports the general notion that pilots desire current, airport-specific information [such as winds and runway(s) in use], and often rely on the UNICOM operator or other sources of information at non-towered airports for this information.

#### AC 90-42F: Traffic Advisory Practices at Airports Without Operating Control Towers

Although dating to 1990, AC 90-42F remains relevant with guidance to pilots operating at non-towered airports. It explains two ways for pilots to communicate their intentions and obtain airport/traffic information when operating at non-towered airports. First, pilots may communicate with an FSS that is providing airport advisories on a CTAF. Second, pilots may make a self-announced broadcast on a CTAF. The AC does not include a third option: communicating with a UNICOM to obtain airport advisories. It appears this AC is more focused on pilot advisories (FAA 1990).

#### Proposed Discontinuation of Airport Advisory Service

On June 30, 2015, FAA published in the *Federal Register* a Notice of Proposed Policy: "Discontinuation of Airport Advisory Service in the Contiguous United States, Puerto Rico, and Hawaii." FAA is proposing to discontinue all three of the "advisory type services" at 19 airports within the contiguous United States. FAA explains in the Notice that since Lockheed Martin was awarded the FSS contract in 2005, the number of FSSs has been reduced "from 58 to 18 to the current number of 5" ("Discontinuation of Airport Advisory Service in the Contiguous United States, Puerto Rico, and Hawaii" 2015, p. 37356).

According to the Notice, "the Flight Services Quality Assurance Evaluation Group found low usage at the locations still receiving the service. At 18 of the 19 remaining locations, a sample of historical data reflects that pilots contact the [Remote Airport Advisory] RAA service an average of less than 1 time per day" (FAA 2015, p. 37357). However, the FAA (FAA 2015, p. 37357) also states:

> Additionally, pilots are using other information resources, such as, Automated Surface Observing Systems (ASOS), Automated Weather Sensors System (AWSS), Automated Weather Observing System (AWOS), Unicom [sic], and other commercial aviation information services. The combined resources provide the pilot the same or higher level of flight information as RAA service and the service has become redundant.

With these older technologies being phased out and fewer services provided by FSS, airports are considering how to fill the gap. With an interest in ensuring airport safety, managers of many non-towered airports are arranging for airport advisories to be issued by airport, FBO, or other personnel. These advisories can replace the airport advisories once offered by FSS.

#### AOPA Safety Advisor

The AOPA presents recommendations for operations at non-towered airports in the organization's Safety Advisor, Operations and Proficiency No. 3 (AOPA 2003). According to the AOPA:

> Regulations and procedures can't cover every conceivable situation, though, and the FAA has wisely avoided imposing rigid operating regulations at non-towered airports. What is appropriate at one airport may not work at the next. Some airports have special operating rules because of obstacles or hazards, while other rules may promote a smooth and efficient flow of traffic or keep aircraft from overflying unsympathetic airport neighbors (AOPA 2003, p. 1).

Of significance in the AOPA Safety Advisor is that non-towered airports without an FSS on the field generally have a dedicated UNICOM frequency. "Usually staffed by fixed-base operation (FBO) employees who provide airport information, the UNICOM is usually the CTAF" (AOPA 2003, p. 5). The AOPA is quick to point out, "UNICOM operators are not required to communicate with pilots, and if they do, there are no standards for the information conveyed" (AOPA 2003, p. 5). This may explain why some non-towered airports do not provide airport advisory services to pilots.

The Safety Advisor also recognizes the importance of automated weather observing equipment, whether in the form of an AWOS or ASOS. Pilots are encouraged by the AOPA to "monitor these systems, if available, before takeoff and 20 to 30 miles out when approaching the airport to land" (AOPA 2003, p. 5). "At airports without automated information," the AOPA states, "you'll [pilots will] need to contact UNICOM for information." This would indicate, at least from the AOPA perspective, that an AWOS or ASOS is a substitute for an audible airport advisory. However, to maintain a sufficient level of safety, airports without an AWOS or ASOS would benefit from providing audible airport advisories. Without automated weather or audible airport advisories, pilots must determine the active runway, based on prevailing winds, on their own. Echoing FAA guidance, the AOPA encourages pilots to "overfly the airport at least 500 feet above the traffic pattern, and look for the windsock, wind tee, or tetrahedron" (AOPA 2003, p. 10).

#### FAA Pilot Handbook, Chapter 13—Airport Operations

The FAA Pilot Handbook is a complete resource for pilots and also contains useful information for airport staff and UNICOM operators. In particular, chapter 13 presents information related to airport operations. "It is important for a pilot to know the direction of the wind. At facilities with an operating control tower, this information is provided by ATC. Information may also be provided by FSS personnel located at a particular airport or by requesting information on a CTAF at airports that have the capacity to receive and broadcast on this frequency" (FAA 2013a, p. 13-10). Thus, this resource guides pilots toward the UNICOM frequency, if available, to obtain current wind information and determine the runway in use.

#### 47 CFR Part 87.213: Aeronautical Advisory Stations (UNICOMs)

Within 47 CFR Part 87.213, airport operators will find FCC guidance addressing the scope of UNICOM services. First, if used to issue advisories, UNICOM operators shall "provide service to any aircraft station upon request and without discrimination" (FCC 1990, p. 225). It also states that "UNICOM transmissions must be limited to the necessities of safe and expeditious operation of aircraft such as condition of runways, types of fuel available, wind conditions, weather information, dispatching, or other necessary information" (FCC 1990, p. 225). It also says that "on a secondary basis, UNICOMs may transmit communications which pertain to the efficient portal-to-portal transit of an aircraft, such as requests for ground transportation, food, or lodging" (FCC 1990, p. 225) and that "UNICOMs may communicate with aeronautical utility stations and ground vehicles concerning runway conditions and safety hazards on the airport" (FCC 1990, p. 225).

### SUMMARY

As discussed in this chapter, multiple options are available to airport operators for providing current airport information to pilots. Whether the options are low tech or high tech, airport operators have adopted numerous platforms for promoting airport safety by conveying much-needed information to pilots. Regardless of the facilities available and services offered at non-towered airports, much of the guidance available in the literature encourages pilots to contact the UNICOM station, if available, to obtain current winds and runway(s) in use. If a non-towered airport does not provide this service, pilots must utilize visual wind indicators. Although pilots are resourceful and use available means to be informed, airport operators can be proactive in ensuring all airport users are informed and operating with the same information by issuing airport advisories by means of the UNICOM or appending AWOS/ASOS broadcasts.

CHAPTER FOUR

# SURVEY RESULTS

## METHOD OF ADVISORIES

In general, non-towered airports provide information to pilots. Even a sole wind sock at an unattended airport is providing wind information (magnitude and direction) to pilots. The survey began by asking participants, "In what manner does your airport provide airport advisories to pilots?"

As shown in Figure 6, most respondents (160, 97%) provide information to pilots by means of audible advisory, ASOS/AWOS, or wind sock or segmented circle. Only 57 (35%) airports provide audible airport advisories to pilots upon request. Most airports not providing audible advisories provide AWOS or ASOS. AWOS/ASOS are provided by 150 airports (91% of respondents), and a wind sock or segmented circle is provided by 160 airports (97% of respondents). A few airports also have a dedicated website or use e-mail to keep airport users informed, although these resources would be useful to pilots only in the trip planning stages, not while in the air inbound for landing.

## AUDIBLE ADVISORIES

Of the airports providing audible airport advisories, most provide them only upon request by a pilot. Even if airport advisories are available upon request, some airports reported low utilization of this service. This low utilization at some airports has been associated with lack of formal training of personnel and an underlying fear of liability by airports in providing airport advisories. When provided, the advisories generally are designed to convey winds, runway in use (or favored), and NOTAMs affecting the airfield.

The personnel providing the audible airport advisories varied among airports, although there were common themes in the data. Airport staff or airport office personnel were more than twice as likely as other personnel to provide the advisories. The next most common personnel providing advisories were the airport manager, FBO manager or FBO personnel, or airport operations (see Figure 7).

In an effort to determine how personnel providing airport advisories obtain the correct information to disseminate to airport users, the survey included a question addressing any unique tools or equipment used: "What equipment, procedures, or information are utilized by those providing airport advisories?"

Generally, the data reveal that airport personnel are using only a radio and visual observation to obtain information to disseminate to pilots. Although several participants use their on-field weather observation system, most simply rely on the wind sock and observation of the runway for other aircraft activity (see Figure 8).

Finally, as part of this subset of questions on audible advisories, in an effort to determine the degree of personnel training for personnel providing airport advisories, the interviewer asked, "Are there any special certifications (i.e., trained weather observer) or training required for those providing airport advisories?"

Most participants do not provide any formal training for personnel assigned the task of providing airport advisories to airport users. Most airports emphasize proper phraseology and operation of the UNICOM base station, but that is generally the extent of training. Many airports prefer pilots to staff

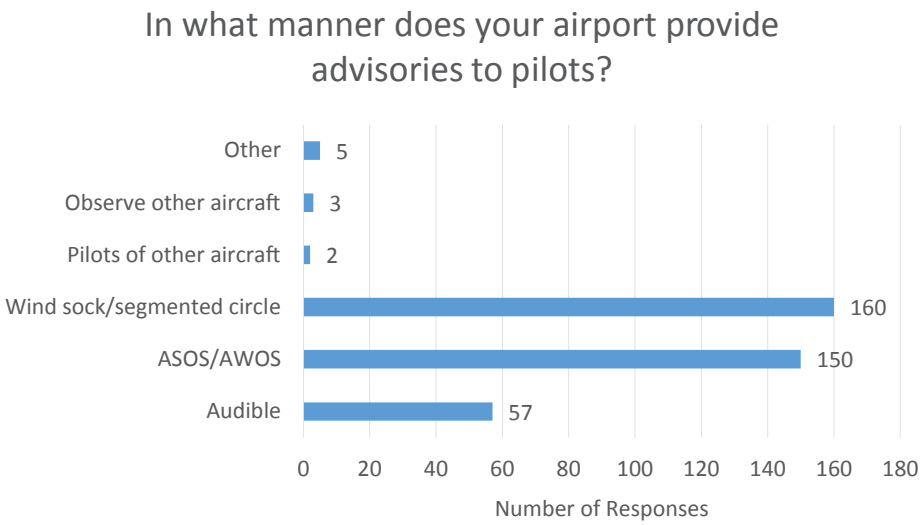


FIGURE 6 Nature of advisories.

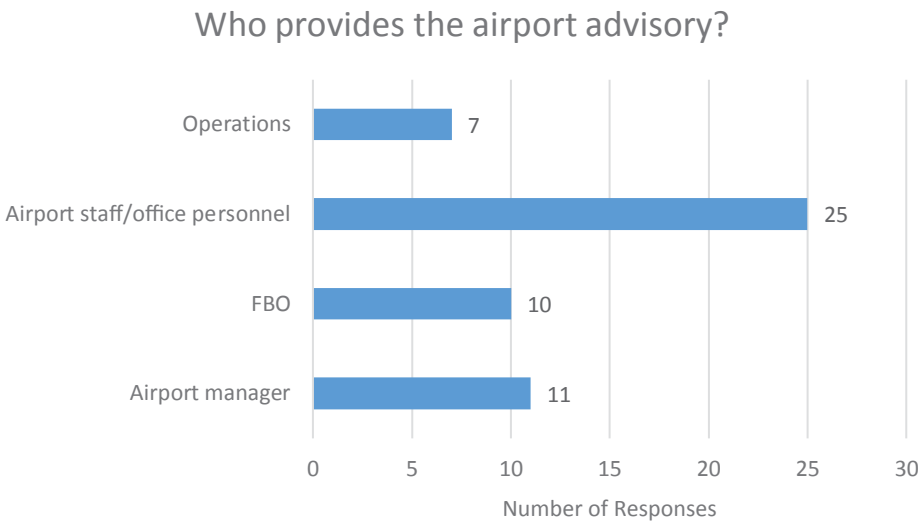


FIGURE 7 Source of advisory.

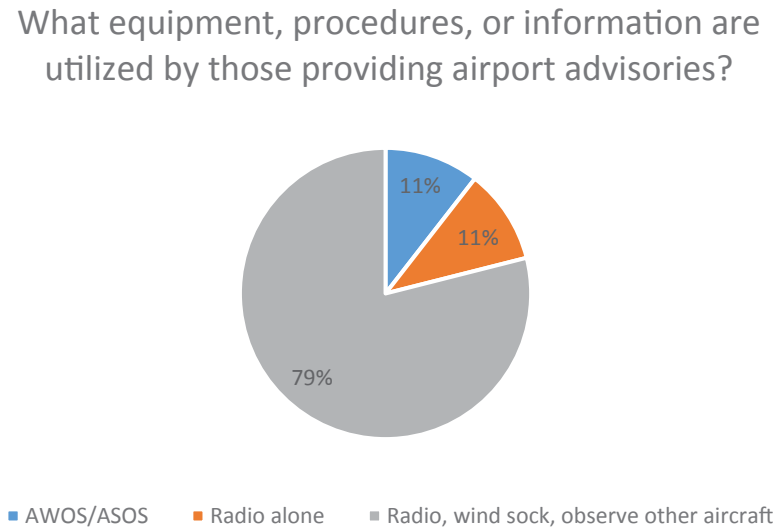


FIGURE 8 Equipment, procedures, and information used by those providing airport advisories.


FIGURE 9 Required certifications or training for those providing airport advisories.

the UNICOM. Two of the airports that participated in the study actually require certificated pilots to staff the UNICOM base. The managers of these two airports are pilots, which may explain their requirement. These managers believe that pilots are best equipped to advise other pilots on winds and runways in use (see Figure 9).

### DIFFERENCE BETWEEN PUBLISHED AND ACTUAL PROCEDURES

To determine whether pilots, in general, are following proper protocol, the participants were asked, "Is there a difference between what is published and what is normally actually followed?" The reasoning behind this question relates to the unique expectations on the part of pilots in the non-towered airport environment.

Fortunately, 132 participating airports (85%) answered "no" to this question. In essence, at most non-towered airports, pilots are adhering to published traffic patterns; even so, 14 (9%) of the participating airports stated there was "sometimes" a difference between what is published and what is normally actually followed, whereas 10 (6%) participating airports answered "yes," there was a difference (see Figure 10).

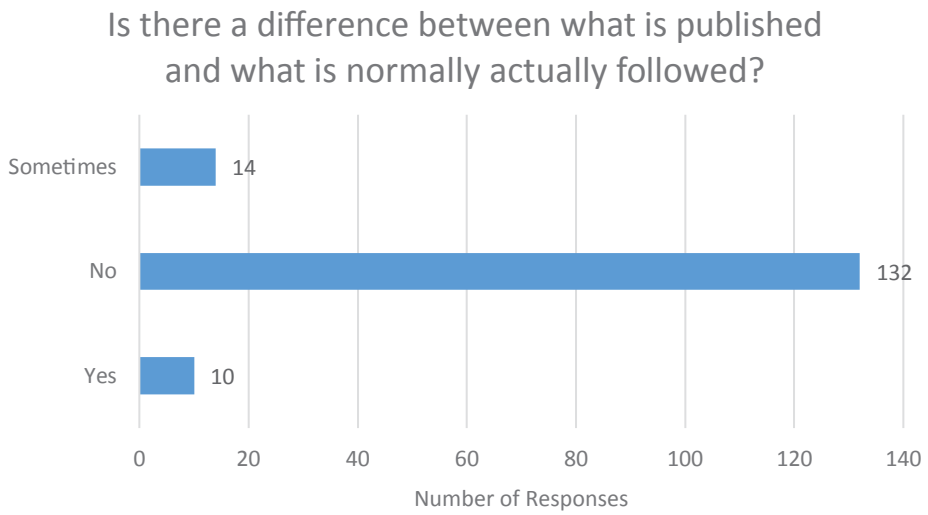


FIGURE 10 Difference between what is published and the actual procedures followed.

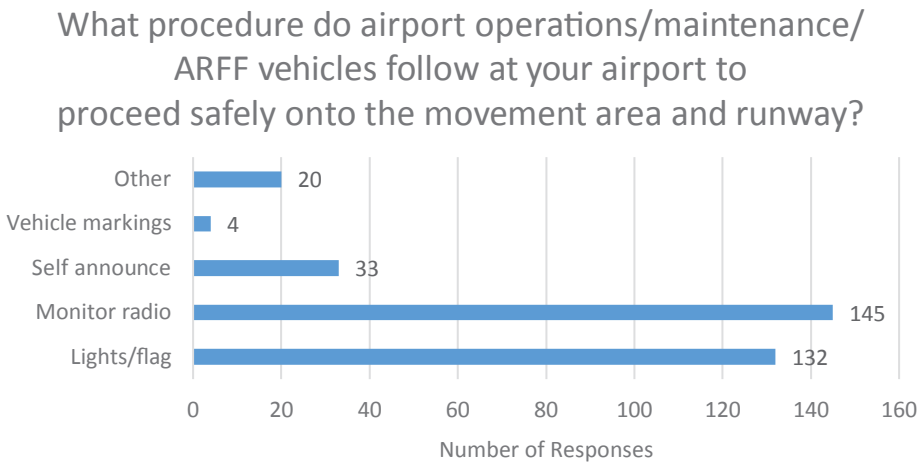


FIGURE 11 Procedures for operations/maintenance/ARFF vehicles.

## AIRPORT OPERATIONS/MAINTENANCE/AIRCRAFT RESCUE FIREFIGHTING VEHICLE PROCEDURES

Because of the specific hazards presented by the presence of vehicles in the airport movement area, especially at non-towered airports where ATC clearance is not required, the survey queried participants about how their operations/maintenance/ARFF vehicles access the movement area. Although there is significant guidance for ground vehicle operators, as reviewed in chapter three, the reality of ground vehicle operating practice was deemed significant enough to be included in this study.

Most of the participating airports report that ground vehicle operators monitor the radio (145 or 89% of responses) and/or utilize lights/flags on the vehicle (132 or 81% of responses) (see Figure 11). Thirty-three (20%) participating airports stated their ground vehicle operators self-announce before entering the movement area, including the runway. Twenty (12%) participating airports provided another response, which focused mostly on "looking out" for aircraft, including one respondent who stated, "Our ground vehicle operators are required to perform a 360-degree turn before entering the runway to check for traffic in the pattern who may not be broadcasting." This is recognized by the FAA as a best practice.

## ROLE OF COMMON TRAFFIC ADVISORY FREQUENCY

An effort was made to determine the role of the CTAF at airports by asking participating respondents, "Does the CTAF at your airport serve as UNICOM, MULTICOM, and/or FSS?" Although only 71 participants answered this question, 100% of them answered "UNICOM." In general, non-towered airports equipped with UNICOM have either a stand-alone UNICOM frequency or a combined CTAF/UNICOM frequency. Survey findings point to advantages and disadvantages with each of these approaches. In particular, with a stand-alone frequency, transmissions do not compete with general pilot advisories that would be transmitted on the CTAF. However, pilots are required to be informed of this separate frequency and realize that CTAF and UNICOM are not combined. Airports with a combined CTAF/UNICOM frequency have the advantage of only one frequency being required. Pilots must address "traffic" or "UNICOM" to ensure the appropriate response. At the same time, combined frequencies report greater frequency congestion as UNICOM and CTAF transmissions share the same frequency.

To determine if automated airport advisory information was made available on this frequency, participating airports were asked, "Is automated airport advisory information broadcast on this frequency (like ATIS)?" Most participating airports (118 or 96%) answered in the negative (see Figure 12). This means that the UNICOM stations must be staffed by personnel capable of communicating airport advisories to pilots upon request.

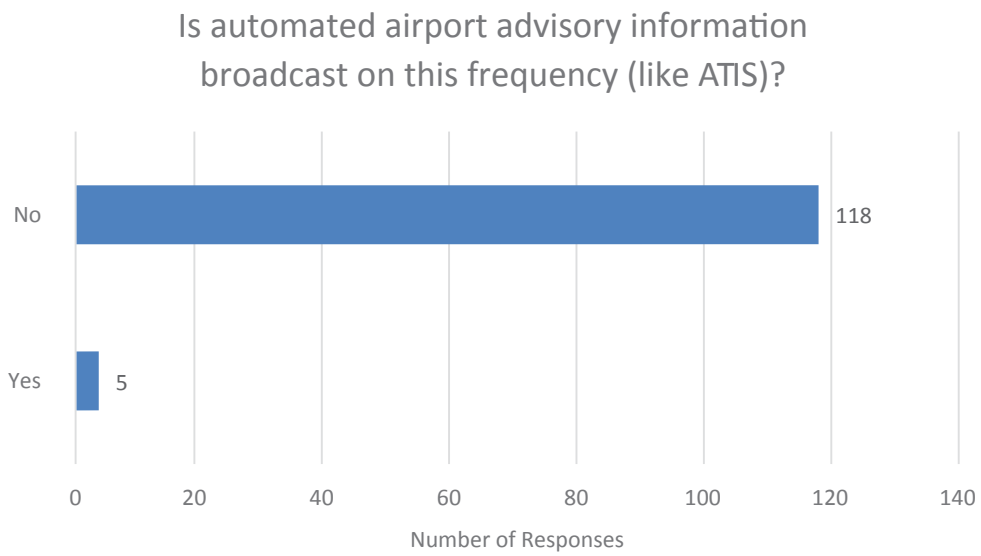


FIGURE 12 Availability of automated advisories.

### COMMON TRAFFIC ADVISORY FREQUENCY

Many airports use the same frequency for CTAF, and frequency interference, or bleed over, is often the result. In an effort to determine the role of frequency interference at non-towered airports (to possibly shed light on the role of such frequency interference on safe aircraft operations), participating airports were first asked to specify the frequency of their CTAF. Second, they were asked whether bleed over was a problem.

Results indicate that at the majority of participating airports, three CTAF frequencies are most common: 122.80 (24%), 123.00 (22%), and 122.70 (19%) (Table 3). Because this study was conducted on a nationwide basis, these findings do not necessarily indicate frequency congestion among the airports sharing identical frequencies.

The next question in the survey asked, "Is bleed over ever an issue with nearby airports sharing same frequency?" Although the majority of participating airports (88 or 54%) did not report frequency

TABLE 3
ASSIGNED UNICOM FREQUENCIES FOR AIRPORTS IN THE STUDY

| UNICOM Frequency | Number of Airports | Percentage of Airports |
|---|---|---|
| 122.70 | 38 | 20 |
| 122.725 | 11 | 6 |
| 122.80 | 47 | 25 |
| 122.95 | 2 | 1 |
| 122.975 | 9 | 5 |
| 123.00 | 49 | 26 |
| 123.05 | 21 | 11 |
| 123.075 | 11 | 6 |
| Total | 188 | |

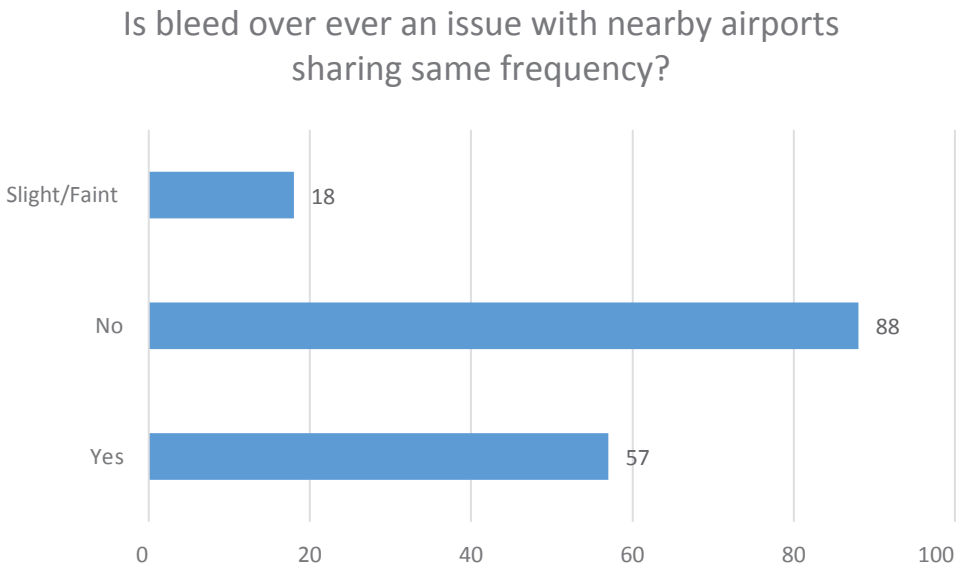


FIGURE 13 Prevalence of frequency interference.

congestion, 57 (35%) participating airports reported frequency congestion or bleed over with nearby airports sharing the same frequency. This problem is more prevalent in states such as Florida, where the land is flat and there are numerous airports near each other. Eighteen (11%) airports reported bleed over that was intermittent or faint (see Figure 13). In reality, there are only a certain number of frequencies available.

Because of the limited available frequencies, radio frequency interference with nearby airports may be problematic at an airport. Both the FAA and FCC recognize this and encourage airport operators to "develop a 'least interference' frequency assignment plan" (FAA 2014a, p. 4-1-6). The AOPA "encourages licensed UNICOM operators to consider changing a frequently overloaded UNICOM frequency to a frequency unique to the area, thus avoiding congestion and improving safety" (AOPA n.d.). Specifically, AOPA recommends a minimum of 60 statute miles between airports sharing a frequency. Requests for a different frequency may be made with the FCC, with preference given to 25-kHz–spaced channel frequencies.

For airports experiencing frequency interference, especially interference such as that resulting from a hostile neighbor with a handheld device or FBOs at the airport arguing over fuel sales, the airport may file an "interference complaint" with the FCC. The FCC then has the authority to compel the interfering party to cease and desist from interfering with the airport UNICOM frequency.

The FCC regulates aviation services frequencies in cooperation with the FAA. Both FCC and FAA requirements must be complied with by anyone using an aviation radio. New applications are to be submitted to the FCC through the Universal Licensing Systems (ULS). More information is available at http://wireless.fcc.gov/services/index.htm?job=licensing&id=ground_stations.

### PILOT CONSISTENCY

To gauge the degree to which pilots actually communicate their intentions over the CTAF, the survey asked participants, "Do pilots consistently communicate their intentions over the CTAF?" Fortunately for these airports and in the interest of airport safety, the vast majority of participating airports (158 or 97%) reported that pilots usually communicate their intentions over the CTAF. This is identified as a best practice by the FAA and AOPA and brings some sense of organization to a non-towered, non-ATC airport environment (see Figure 14).

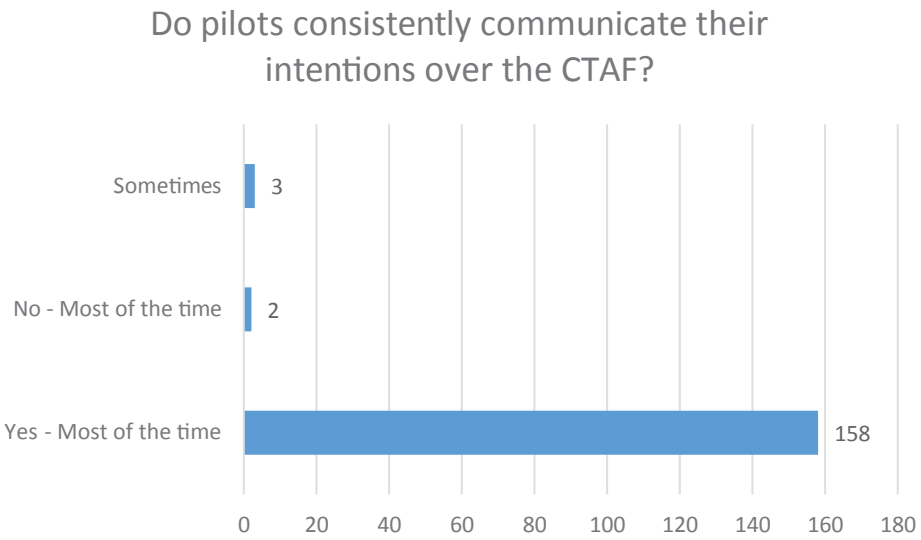


FIGURE 14 Communication of pilot intentions.

## EFFORTS TO MINIMIZE INCURSIONS

To learn what methods participating airports use to minimize runway incursions, a survey question asked about such methods: "What are you doing to minimize incidents/incursions at your airport?" This was an open-ended question, allowing participants to list any and all methods adopted at their airport. Although 155 unique responses were received, several common themes emerged.

The data indicate that most of the participants answering the question do nothing special to minimize incident/incursions at their airports. However, the data were analyzed to discover themes related to proactive approaches by participating airports for minimizing incidents/incursions. Common methods include safety meetings, enhancements to the airfield (such as LED lighting, new service roads that bypass the runway, enhanced runway safety areas, or security fencing), encouraged communication, pilot meetings, safety reminders, limiting access, procedural, driving training, signage, and EAA/FAA/AOPA meetings (see Figure 15).

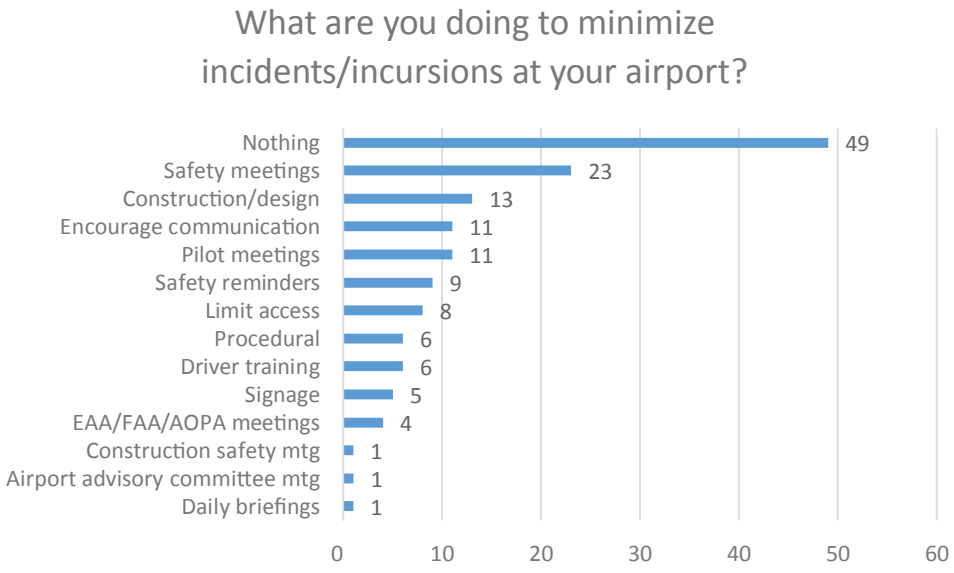


FIGURE 15 Actions taken to minimize incidents/incursions.

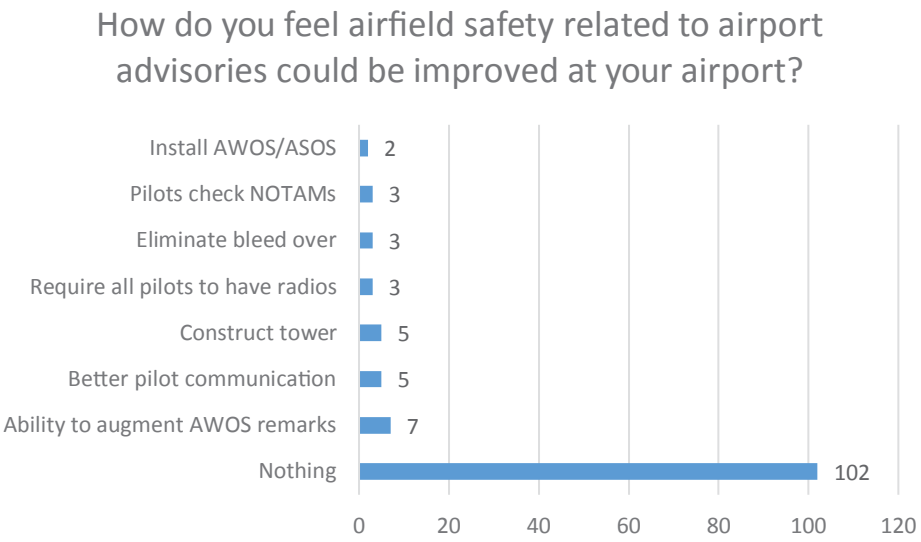


FIGURE 16 Potential improvement of airfield safety.

### IMPROVEMENTS TO AIRFIELD SAFETY

In an effort to determine if there were any other methods that could be adopted by airports, especially in relation to the broadcast of airport advisories, the survey asked, "How do you feel airfield safety related to airport advisories could be improved at your airport?"

Although most participants responding to this question indicated that nothing could be done to improve airfield safety, some airports provided suggestions for improvement. Two (2%) airports would like to have an AWOS or ASOS installed. Three (2%) airports would prefer that pilots check NOTAMs more often. Three (2%) airports would like to eliminate their frequency interference (or bleed over) problem. Three (2%) airports would prefer to require all aircraft operating at their airport to have and use radios. Five (4%) airports would prefer to have an air traffic control tower built. Five (4%) airports also would prefer that pilots do a better job of communicating their intentions in the airport environment. Seven (5%) airports would prefer the ability to augment their AWOS or ASOS remarks (see Figure 16).

### NECESSITY OF AIRPORT ADVISORIES

To gauge the degree of support among non-towered airports for audible airport advisories, the following question was asked: "Do you believe that airport advisories are necessary at non-towered airports?" The vast majority of participants (96%) believe that audible airport advisories are necessary at non-towered airports. This was true even among airports not currently issuing audible airport advisories (see Figure 17). There is a general belief among participating airports in the value of airport advisories for enhancing airport safety.

### PROPOSED CHANGES TO AIRPORT ADVISORIES

To benefit from the collective experience of the participating airports, the survey asked, "Do you feel changes to airport advisories would improve aviation safety? If so, what types of changes?" The responses were varied and, as a result of the open-ended format of the question, provided rich data. Themes, based on actual unique comments by participants, include:

- Have the ability to append/augment AWOS/ASOS broadcasts
- Use proper phraseology on UNICOM
- Minimize frequency interference/bleed over
- Make more UNICOM frequencies available

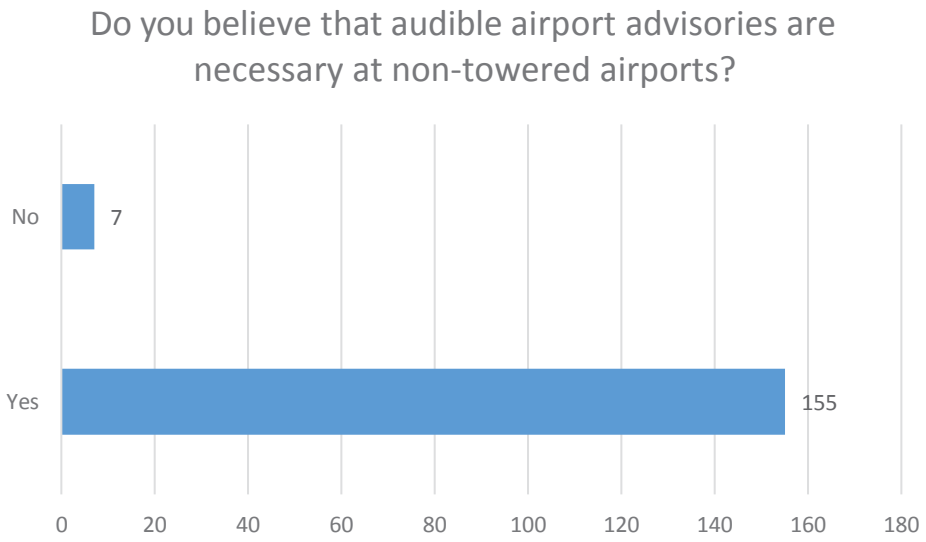


FIGURE 17 Necessity of audible airport advisories.

- Require mandatory radios by pilots
- Ensure NOTAMs are made available on UNICOM and/or AWOS/ASOS
- Enhance situational awareness on the part of all airport users
- Improve training for those providing advisories
- Improve education of pilots on proper communication and the role of UNICOM.

## LESSONS LEARNED

In an effort to learn from the experiences of participating airports, the survey asked participants, "What lessons has your airport learned regarding the use, misuse, or absence of airport advisories?" This question also yielded rich data because of the open-ended format. The number of actual lessons learned, as verbalized by participants and categorized into themes, are presented in Table 4.

Most of the lessons learned that were shared by participants can be categorized as "communication." Responses placed the responsibility for proper communication on pilots, ground vehicle operators, and UNICOM operators. No one stakeholder was excluded. With a specific focus on the UNICOM operator and the occasional desire to "control" traffic, one participant shared, "Staff gave too much information to pilot to land on a taxiway; in an emergency, it should be the pilot's decision. Our UNICOM should only issue advisories, not air traffic control instructions. Staff can overstep bounds with advisories." To sum up all of the lessons learned in the category of communication, one participant shared, "communication is key."

Although not as common as the communication category, several responses can be categorized as "AWOS/ASOS." It becomes apparent while reviewing the lessons learned that pilots rely heavily

TABLE 4
LESSONS LEARNED THEMES

| Theme | Number of Responses |
|---|---|
| Communication | 18 |
| AWOS/ASOS | 5 |
| NOTAMs | 5 |
| See and Avoid | 3 |
| Mixed Operations | 2 |
| Priorities | 2 |

on an AWOS or ASOS, and the airport manager believes it greatly enhances the airport environment. Whether a stand-alone AWOS/ASOS broadcast is used, or one appended with airport messages, or one used in conjunction with audible airport advisories on the UNICOM frequency, participants shared that having an AWOS or ASOS on the field is useful in their efforts to convey current airport information to pilots. Many of the airports with an ASOS or AWOS report less than enthusiastic demand for an audible airport advisory, especially among locally based pilots.

The "NOTAMs" category was as popular as the "AWOS/ASOS" category and often referred to pilots not checking NOTAMs. Thus, airport staff may issue a NOTAM about a closed runway, yet a pilot attempts to land on the closed runway, apparently unaware of the runway closure. As one participant shared, "Pilots don't check NOTAMs, and this creates inconvenience and negatively impacts airport safety."

The "see and avoid" category places responsibility for this on the pilots. Airports can issue current airport information through audible advisories on UNICOM, but if pilots are not practicing see and avoid techniques, an accident may still occur. As one participant shared, "Pilots should pay attention at all times while in the pattern."

Several lessons learned were in the category of mixed operations. These comments referenced the complexity of aircraft operations, thus affecting airport safety and the need to remain vigilant. As one participant shared, "There are lots of different and risky operations at this airport."

Finally, several responses were categorized as "priorities," referencing city priorities and pilot priorities. One participant believed the city-owned airport was not a priority for the city, thus resulting in airport needs being unmet. Another participant believed that, although safety should be a priority, pilots can be too hurried, causing mistakes to be made. As this participant encouraged, "Slow down, take your time."

### NASA AVIATION SAFETY REPORTING SYSTEM REPORTS

In addition to the survey of airport operators, a search of NASA Aviation Safety Reporting Systems (ASRS) reports was conducted for the 204 airports that were the focus of this synthesis. Within the NASA ASRS database, all personal and organizational names are removed. Dates, times, and related information that could be used to infer an identity are generalized or eliminated. The NASA ASRS began operation on April 15, 1976, and the search conducted for this synthesis did not specify beginning or ending dates. Although a total of 1,202 reports were produced through the search, only the reports that addressed airport advisories, the use of UNICOM for advisory services, or airport vehicular traffic on the movement area were included. This filtering process yielded only 20 reports. The 20 reports were categorized into themes, as presented in Table 5.

The 20 ASRS reports that resulted from the search are summarized, along with consultant comments, in Table 6. The full synopsis of each report, as retrieved from the NASA ASRS database, is presented in Appendix D.

- Augmenting ASOS transmissions with current field information, including closed pavement, is beneficial.

TABLE 5
THEMES IN ASRS REPORTS RELATED TO SYNTHESIS

| Category | Number of Reports |
|---|---|
| Improper or no advisory | 10 |
| Beneficial UNICOM advisory | 4 |
| Improper radio communication | 3 |
| Closed runway operations | 3 |

TABLE 6
ASRS REPORTS

| Number | Airport Identifier | Synopsis | Consultant Analysis |
|---|---|---|---|
| 1 | VPZ | A pilot took off for a short flight from VPZ Runway 27 which was NOTAMed closed, but he had not checked NOTAMs and noted he monitored ASOS which the airport was prohibited from using as an airport status notification tool. | The UNICOM station was used to query an aircraft that had taken off from a closed runway. However, on-field ASOS did not indicate the closure. Pilot says there is a disconnect between on-field ASOS at this airport and current NOTAMs. |
| 2 | TRM | A CL60 experienced multiple TCAS RAs with VFR traffic while inbound to TRM on a brilliant VMC day. | The UNICOM station was not issuing airport advisories at this airport on a busy day. Pilot was in need of an airport advisory. |
| 3 | AUO | Corporate jet Captain reports an opposite direction takeoff by a light plane at an uncontrolled airport as he taxis onto Runway 18 for takeoff. Both aircraft were on the correct Unicom frequency but the Captain did not hear any announcements from the light plane pilot. | Even though UNICOM provided an airport advisory indicating winds favored runway 18, the pilot of a light aircraft departed runway 36, opposite the flow of traffic, according to the airport advisory provided by UNICOM. |
| 4 | COI | C172 Pilot Uses Wrong Unicom Frequency To Announce Intentions To Land At COI. After Touchdown The Pilot Notices A C152 Rolling Out In The Opposite Direction. They Pass In The Middle At Slow Speed. | The incorrect UNICOM frequency was used to request an airport advisory because of a recent UNICOM frequency change that was not reflected in current charts or NOTAMs. Although the active runway in use provided by the UNICOM operator matched the airport they were flying into, the aircraft landed against the flow of traffic. |
| 5 | X59 | An Over-Zealous Unicom Operator Was Creating A Hazardous Condition While Attempting To Act As An Air Tfc Ctlr At A Non Twred Arpt At X59, FL | The UNICOM operator at this airport was offering ATC-like instructions, rather than simple airport advisories upon request. Pilot states this UNICOM operator is creating an unsafe airport. |
| 6 | F70 | Just After Taxiing Across Rwy Hold Line And Announcing Intentions To Use The Rwy At Non Twr Arpt, The Plt Heard Unicom Advise Of An Acft On Final That He Had Not Seen Or Heard From During Taxi And Run-Up. | The UNICOM operator notified pilot of landing traffic to avoid a collision after having observed a runway incursion. |
| 7 | AUO | After Carefully Chking Notams Prior To Flt To AUO, A Cpr Crew On IFR Apch Were Surprised To Find The Rwy 18-36 Closed At The CTAF Arpt. | The UNICOM operator notified a pilot of a closed runway after that pilot announced an approach to that runway. Even though a NOTAM had been issued by the airport, FSS did not provide said NOTAM during a pilot briefing. |
| 8 | VNC | Rptr Complaint Of Freq Congestion At Most Non Twr Arpts Unicom. | Pilot reports of severe frequency congestion on UNICOM frequency because of the close proximity and identical frequencies at neighboring airports. |
| 9 | BLM | F150 Lands At BLM On Closed Rwy. | Pilot reports of no response from UNICOM regarding runway closure. |
| 10 | ELN | A C172 Instructor And Student Landed On A Closed Rwy At ELN. | Pilot lands on closed runway because of his lack of awareness of the runway closure. UNICOM station did not provide notice of closed runway, nor did ASOS. Closed runway was also not indicated closed with Xs. |
| 11 | PWT | Bn-2Amk Iii Trislander Cargo Plt Left Tail Stand Attached During Taxi Out Resulting In Unicom Operator Alerting Him To The Error. | Pilot is notified by UNICOM operator of aircraft tail stand left in position on taxi out. |

TABLE 6
(*continued*)

| Number | Airport Identifier | Synopsis | Consultant Analysis |
|---|---|---|---|
| 12 | PWT | Be18 On A Short Final To Rwy 19 At Pwt, Encounters A C150 On Its Climb Out From The Opposite Direction. | Pilot reports of no response from UNICOM regarding airport advisory request. |
| 13 | SUT | Instructor With Student Back Taxies On Rwy (No Txwy) And Is Informed By Unicom Of An Acft Turning Onto Final. He Taxied Onto Grass Next To Rwy Which Is Often Used For Lndg Practice And The Second Acft Lands. | Pilot reports the UNICOM operator advised of an aircraft on final approach as his aircraft was back taxiing on the runway, thereby preventing a collision. |
| 14 | HAO | A Cpr Jet Plt Was Forced To Go Around By An Acft Operating Without Radios Or Lights At Hao. | Pilot reports of no response from UNICOM regarding runway closure. |
| 15 | MGY | A Plt Of A C402 Was Advised Once By Apch, Then Twice By Mgy Unicom, That The Arpt Was Closed Due To Painting Equip On The Rwy. Assessing The Unicom Info As False The Plt Landed Anyway And Was Then Accused Of Endangering People And Property. | Pilot reports of inaccurate advisories on UNICOM regarding closed runway due to painting. |
| 16 | LDJ | Uncontrolled Arpt 2 Sma Acft Plts Started Simultaneous Tkofs From Opposite Ends Of Same Rwy. Reporter Aborted His Tkof, Other Acft Continued Tkof. | Pilot reports that UNICOM operator advised of proper procedures at the airport. |
| 17 | LNC | Traffic Troubles At An Uncontrolled Arpt. | Pilot reports of no response from UNICOM regarding runway closure. |
| 18 | BTP | Plt Of Sma Landed At Uncontrolled Arpt On Rwy With Construction In Progress, Obscured X, Not Very Noticeable. Traffic Using Parallel Txwy For Lndg And Tkof. Notam Regarding Rwy Closed Had Been Issued. | Pilot reports that UNICOM operator did not indicate runway was closed, and operations were being conducted on the taxiway. |
| 19 | 15G | Light plane pilot on takeoff roll at uncontrolled airport reports runway incursion by another aircraft taxiing for maintenance. Takeoff is aborted and other aircraft continues on across runway without communication. | Pilot reports of near collision on runway with another aircraft, as well as vehicle-aircraft collision that recently occurred. |
| 20 | JYO | A Pa28 Plt At Ctaf Jyo Describes A Tfc Conflict That He Experienced And Suggests Possible Mitigating Procs. | Pilot reports conflicting advisory (runway in use) from UNICOM operator even though traffic was using another runway. Pilot considered this an incomplete airport advisory. |

- If an airport has an advertised UNICOM frequency, pilots expect that airport advisories are available upon request.
- Generally, pilots expect airport advisories will be issued upon request via the UNICOM frequency.
- To ensure effective use of UNICOM by pilots, it is important to communicate any UNICOM frequency change.
- It may be helpful for airports experiencing frequency congestion to work with the FAA and FCC to minimize this frequency congestion and avoid duplicate frequencies at neighboring airports.
- Pilots often rely on the UNICOM station to monitor airport activity and notify pilots of hazards to prevent accidents.
- Although Xs may be used to visually indicate closed runways, pilots also rely on NOTAMs.
- Airports may enhance safety by minimizing vehicle/pedestrian traffic in the movement area and ensure that vehicle operators communicate on the appropriate frequency to announce intentions.

CHAPTER FIVE

# CASE EXAMPLES

To understand better how specific airports provide airport advisories through the UNICOM or combined CTAF/UNICOM frequency, including staffing the UNICOM station, training required of personnel, and degree of airport advisory requests, 13 airports from this study were selected and respondents contacted for a follow-up telephone conversation. A case example was developed for six of these airports. Table 7 presents a summary of these case examples.

### CASE EXAMPLE 1: SHELBYVILLE MUNICIPAL AIRPORT, SHELBYVILLE, TENNESSEE

#### 59 Based Aircraft, 141 Daily Operations, UNICOM Operated by FBO

Shelbyville Municipal Airport (SYI) is owned and operated by the city of Shelbyville, in middle Tennessee. The airport has a combined CTAF/UNICOM frequency, with the UNICOM station operated by the FBO. The line service personnel usually staff the UNICOM station. The FBO provides on-the-job training for line personnel, including instruction in the operation of the UNICOM station. As a result of the airport's location, a plentiful supply of potential employees is available at the nearby university, which has a collegiate aviation program. Most of these students are student pilots or private/commercial pilots, which the FBO values, because when these students are hired as employees, they already understand radio techniques and proper phraseology. Many of them have requested airport advisories as pilots. Additional instructions are placed next to the UNICOM station.

According to the airport manager, less than 5% of pilots actually request an airport advisory, although 60% of aircraft operations are transient. When asked to pinpoint why there were so few requests for airport advisories, the airport manager pointed to the on-field AWOS and CTAF frequency.

The airport manager said the airport UNICOM station enhances airport safety. Even for seemingly insignificant radio check requests, especially in the morning, the UNICOM station contributes positively to airport safety and provides additional services to pilots, the airport manager said. Ultimately, as the airport manager explained, "UNICOM helps us monitor the airport environment and see situations as they develop." The airport manager encourages more pilots to request airport advisories. "UNICOM station personnel are here to help," he explained.

### CASE EXAMPLE 2: CARSON AIRPORT, CARSON CITY, NEVADA

#### 201 Based Aircraft, 229 Daily Operations, CTAF/UNICOM Operated by Two FBOs

Located in Carson City, Nevada, the Carson Airport (CXP) is owned by Carson City and operated by the Carson City Airport Authority. The airport has a single runway (9-27). AWOS is available on the field and at another airport 12 nm south of Carson City. ASOS is available at another airport 18 nm north of Carson City.

The airport has a combined CTAF/UNICOM frequency. The airport currently has two FBOs on the field—Sterling Air and Mountain West Aviation. Historically, Sterling Air was the UNICOM operator but only until early afternoon because the FBO was only staffed part time. Now that Mountain West Aviation is on the field, this FBO has agreed to take responsibility for UNICOM in the afternoons. Thus, the airport has a unique situation in which the UNICOM station is handled by two different FBOs, the responsibility for which varies by time of day.

TABLE 7
CASE EXAMPLES

| | Airport ID | Airport | City, State | Based Aircraft | Daily Operations | Ground Station | UNICOM Operator | AWOS/ ASOS on Field? |
|---|---|---|---|---|---|---|---|---|
| Case Example 1 | SYI | Shelbyville Municipal Airport—Bomar Field | Shelbyville, Tennessee | 59 | 141 | CTAF/ UNICOM combined | FBO | Yes |
| Case Example 2 | CXP | Carson Airport | Carson City, Nevada | 201 | 229 | CTAF/ UNICOM combined | FBOs (2) | Yes |
| Case Example 3 | PWT | Bremerton National Airport | Bremerton, Washington | 168 | 181 | UNICOM | FBO | Yes |
| Case Example 4 | IWS | West Houston Airport | Houston, Texas | 400 | 282 | CTAF/ UNICOM combined | FBO | No |
| Case Example 5 | EUL | Caldwell Industrial Airport | Caldwell, Idaho | 352 | 403 | CTAF/ UNICOM combined | Airport | Yes |
| Case Example 6 | FLY | Meadow Lake Airport | Colorado Springs, Colorado | 421 | 162 | CTAF/ UNICOM combined | Airport | Yes |

Training for personnel at both FBOs consists of on-the-job training. Emphasis is placed on experienced pilots, although such experience is not required. The airport manager and the owners of both FBOs are pilots. Although the airport is equipped with an AWOS station, which is used quite commonly among pilots, a larger percentage of pilots also request airport advisories by the combined CTAF/UNICOM frequency. The airport manager explains that about 40% of operations are by transient pilots. As expected, a much higher percentage of transient pilots request airport advisories.

CXP is focused on safety and recently hosted an FAA Safety Team seminar on communications at non-towered airports. Based on this and other safety efforts, the airport manager will soon be bringing forth a recommended policy to enhance safety for consideration by the Airport Authority. The policy will include (a) recommended aircraft reporting points, (b) recommended departure procedures, (c) arrival communications and two separate pattern altitudes, with the higher altitude used by faster jet aircraft. The airport manager recommends that all non-towered airports "get on the same page" to avoid midair collisions and ensure a safe operating environment with well-informed pilots. UNICOM can play a key role with this initiative.

### CASE EXAMPLE 3: BREMERTON NATIONAL AIRPORT, BREMERTON, WASHINGTON

#### 168 Based Aircraft, 181 Daily Operations, UNICOM Operated by FBO

Bremerton National Airport (PWT) is owned and operated by the Port of Bremerton. This airport has one runway (2-20). AWOS is available on the field and at three nearby airports located 15 nm southeast, 19 nm east, and 19 nm east, respectively.

PWT has a separate UNICOM frequency. The airport's FBO, Avian Flight Service, has entered into an agreement with the Port of Bremerton to operate the UNICOM station. According to both the airport manager and the FBO manager, on-the-job training is provided to personnel responsible for staffing the UNICOM station. Although most of these personnel are pilots or student pilots, they are not required to have pilot training. Phraseology, as well as typical pilot requests, are part of the

training. Employees are taught that "we can't fly the airplane for them from the ground." Advisories are limited to winds (by means of an AWOS readout at the UNICOM station desk) and use of the phrase "winds are favoring," rather than specifying a runway that must be used. In this way, the FBO avoids liability in case current traffic is using a runway not favorable to current winds. It is the pilot's responsibility to verify active runway by means of the CTAF.

According to the FBO manager, only about 20% of pilots request an airport advisory through the UNICOM. With AWOS on the field and a separate CTAF frequency, most pilots are able to obtain the information needed, thus negating the need for an airport advisory. Most pilot calls are about the location of transient parking or to request a radio check, according to the FBO manager.

According to the airport manager, the AWOS at PWT allows for augmentation, which is convenient for adding advisories (such as airfield maintenance, pavement closures, etc.) to the AWOS broadcast. Although the UNICOM frequency can provide the most up-to-date information, this use of AWOS has enhanced airport safety, the airport manager said. In addition, especially on a calm day with little traffic in the pattern, the UNICOM frequency can provide information to help a pilot use the preferred runway according to current winds. In essence, if there is no traffic in the pattern, CTAF is not effectively used by a pilot to "hear" other traffic intentions. However, UNICOM can serve as a current source of on-field information. UNICOM also benefits the airport because personnel can respond verbally to an operational issue. In the past, UNICOM personnel have served as a "tie-breaker" among two pilots arguing on which runway to use. In these instances, the UNICOM operator can respond, "Traffic is using . . . ," or "The preferred calm wind runway is. . . ."

### CASE EXAMPLE 4: WEST HOUSTON AIRPORT, HOUSTON, TEXAS

#### 400 Based Aircraft, 282 Daily Operations, CTAF/UNICOM Operated by FBO

West Houston Airport (IWS) in Houston, Texas, is a family-owned and operated, public-use airport. The airport has been in operation since 1962, with the current family taking ownership in 1973. The airport currently has 400 based aircraft. The airport operates all airport businesses, except for a few small businesses. This airport has a single runway (15-33). The airport does not have an AWOS or ASOS on the field, but AWOS is available at another airport 12 nm west of West Houston, and ASOS is available at three nearby airports located 12 nm south, 16 nm northeast, and 20 nm northeast of West Houston, respectively.

The airport has a combined CTAF/UNICOM frequency, which is operated by the airport-owned FBO. FBO personnel, either customer service or line service, respond to calls for airport advisory on the combined CTAF/UNICOM frequency. On-the-job training is required for personnel. An airport advisory would include wind direction and velocity and runway in use. Personnel are taught that they serve in an advisory capacity only. The CTAF/UNICOM station does not include control authority. The airport does have an on-field AWOS with a readout screen at the FBO for UNICOM personnel use. The airport manager estimates that 50% of pilots request airport advisories through the UNICOM frequency. The manager said that UNICOM is helpful for pilots in avoiding confusion as to which runway to use. The manager also said that the NOTAM system is complex and confusing. However, UNICOM allows the airport to provide current and easy access to field conditions for pilots, especially for field conditions that have changed since the pilot last received a flight briefing.

### CASE EXAMPLE 5: CALDWELL INDUSTRIAL AIRPORT, CALDWELL, IDAHO

#### 352 Based Aircraft, 403 Daily Operations, CTAF/UNICOM Operated by Airport

The city of Caldwell, Idaho, owns and operates the Caldwell Industrial Airport (EUL). This airport is the busiest airport in the state of Idaho, with 400 aircraft operations daily. This airport has one runway (12-30). AWOS is available on the field. In addition, AWOS is available at another airport 6 nm southeast of Caldwell, and ASOS is available at another airport 19 nm east of Caldwell.

This airport has a combined CTAF/UNICOM frequency. Although the airport has several FBOs, the airport operates the UNICOM base station. Specifically, the airport manager operates

the UNICOM station during most hours; he even has an aeronautical radio in his personal car. The airport manager is a commercial, instrument-rated helicopter pilot. This is appropriate because aircraft operations are 65% helicopter. The airport manager said it helps if UNICOM operators are pilots because it lends "a huge amount to credibility," although it can also serve as a liability. He acknowledged that fixed-wing pilots sometimes believe he favors helicopter operators.

The airport is fortunate to have an on-field AWOS. The AWOS provides most information that pilots need, including information on winds. According to the airport manager, between the CTAF and AWOS, pilots are able to determine the runway in use (direction of landing), thus negating the need for an airport advisory. At this airport, a pilot request for an airport advisory is a "rare occurrence." The UNICOM is used "strictly as needed," according to the airport manager, and with the majority of operations consisting of based aircraft, there is rarely a request for an airport advisory.

However, the airport manager uses the UNICOM to provide needed information to pilots, including unusual circumstances, such as disabled aircraft, NOTAM, and airfield maintenance. When asked what advice he might have for managers of non-towered airports without a UNICOM frequency, the airport manager explained that not having a UNICOM can be a "crippling weakness." He recommended that such airports apply for an FCC frequency authorization. He said at a minimum he encourages pilots to listen to UNICOM, which at this combined CTAF/UNICOM airport, naturally occurs if pilots monitor CTAF.

### CASE EXAMPLE 6: MEADOW LAKE AIRPORT, COLORADO SPRINGS, COLORADO

#### 421 Based Aircraft, 162 Daily Operations, CTAF/UNICOM Operated by Airport

Meadow Lake Airport (FLY), located in Colorado Springs, Colorado, was established about 50 years ago by Experimental Aircraft Association (EAA) members displaced from Colorado Springs Airport. Today, the airport is a public-use airport that is privately owned and operated by the Meadow Lake Airport Association (MLAA). This airport has three runways (15-33, 8-26, and a decommissioned 1,800-ft N-S asphalt/turf runway). In place of the 1,800 N-S asphalt/turf runway, the airport offers a 200-ft × 5,000-ft turf area primarily used by gliders and some occasional tailwheel training. There is an AWOS located 17 nm northwest of the field and another AWOS located 12 nm west of the field. An ATIS is available 10 nm southwest at Colorado Springs and 19 nm southwest at Fort Carson.

The airport has a combined CTAF/UNICOM frequency and an on-field AWOS. According to the MLAA president, the airport does not generally issue airport advisories but can convey hazards to pilots. In general, UNICOM is simply monitored. The two flight schools on airport teach student pilots to think and keep their eyes and ears open. Students are taught to expect the unexpected.

In general, pilots are encouraged to talk to each other. The culture at Meadow Lake, according to the MLAA president, is that the pilot is in charge. Pilots coordinate their intentions with each other. This is attributable in large part to the FAA's stance that the pilot in command is solely responsible for the safe operation of the aircraft. At an uncontrolled airport, such as Meadow Lake, staff can only advise the pilot of hazards, such as runway closures for maintenance or personnel or equipment on the airfield. No clearances are issued to pilots. Other challenges include accommodating gliders, paragliders, aircraft, and helicopters. Even so, the airport has not experienced an in-air collision in 50 years.

### SUMMARY OF CASE EXAMPLE FINDINGS

Although airports may have a combined CTAF/UNICOM frequency or a separate UNICOM frequency handled by the airport or the FBO, there are some general themes that appear in these six case examples. A summary of airport manager and FBO manager comments includes the following:

- Being a pilot is beneficial. Many airports prefer pilots to operate UNICOM.
- Prepare accordingly. Expect that pilots may not know standard procedures at non-towered airports.

- UNICOM is for advisories, not commands. For example, the pilot in command determines which runway to use.
- The priority on UNICOM is for airport advisories. Operational business requests (fuel, cars, parking, etc.) should not take priority—except in an emergency situation.
- Proper training including phraseology for UNICOM personnel is imperative. Otherwise, the UNICOM operator may lose credibility with pilots (and the airport if UNICOM is operated by the FBO).
- Having an on-field AWOS/ASOS is effective at enhancing safety at non-towered airports.
- A separate UNICOM frequency necessitates the need to educate pilots about two separate frequencies—CTAF and UNICOM—to avoid inadvertent use by pilots of the wrong frequency.

CHAPTER SIX

# CONCLUSIONS AND FUTURE RESEARCH

This report is intended to present a synthesis of current practice. In addition, conclusions can be drawn from the data gathered to arrive at a state of current practice. These conclusions are the topic of this chapter and are summarized in Table 8.

### CONCLUSION 1

Based on discussions with managers of 165 non-towered airports nationwide, there is a general assumption that non-towered airports benefit from having either a combined common traffic advisory frequency (CTAF)/UNICOM frequency or a separate UNICOM frequency. Although there are pros and cons associated with having combined and separate CTAF/UNICOM frequencies, the UNICOM is useful in issuing airport advisories upon pilot request. If a UNICOM frequency is advertised, pilots expect that airport advisories are available upon request. Although there is variation among airports that provide advisory services, even airports that do not provide advisories say they are beneficial. The vast majority of participants (96%) said that audible airport advisories are necessary at non-towered airports.

### CONCLUSION 2

Some airports report minimal use of UNICOM for issuing airport advisories. In general, non-towered airports equipped with an on-field Automated Weather Observing System (AWOS) or Automated Surface Observing System (ASOS) receive fewer requests for airport advisories. Having an AWOS or ASOS on the field appears to reduce the need for audible airport advisories because pilots can obtain current winds and use the appropriate runway based on that information. Some airports have the ability to append AWOS/ASOS broadcasts with advisory information. At airports with an on-field AWOS or ASOS, airport and fixed-base operator (FBO) managers report that pilots rely on other pilot transmissions on the CTAF frequency and the on-field AWOS or ASOS broadcast to obtain the necessary information to safely operate at the airport. In reality, pilots benefit from receiving current field information and rely on numerous sources of information to ensure safety of flight. For airports with low utilization of UNICOM or few requests for airport advisories, airport managers may think a UNICOM is unnecessary. However, as one airport manager explained, even if UNICOM is used only for radio checks, it provides value to airport users and enhances airport safety. In addition, for the one pilot requesting and subsequently receiving an airport advisory, the UNICOM station is important. Airport managers are encouraged to consider the value of UNICOM from the pilot's perspective, rather than only from the airport operator's perspective.

### CONCLUSION 3

Discussions with airport and FBO managers clarified that airport advisories are only advisory in nature; they are not required instructions that convey control. The pilot in command remains in command and has the final authority with regard to the operation of the aircraft. Even so, UNICOM operators can monitor CTAF and issue advisories if they observe an aircraft in an unsafe situation, such as attempting to land on a closed runway.

TABLE 8
CONCLUSIONS

| | |
|---|---|
| Conclusion 1 | Non-towered airports benefit from having a combined CTAF/UNICOM frequency or separate UNICOM frequency upon which airport advisories may be transmitted. |
| Conclusion 2 | Non-towered airports equipped with an on-field AWOS or ASOS receive fewer requests for airport advisories. Having an AWOS or ASOS on the field appears to reduce the need for audible airport advisories because pilots can obtain current winds and select the appropriate runway based on that information. |
| Conclusion 3 | Airport advisories are only advisory in nature; they are not required instructions that convey control. The pilot in command remains in command of the aircraft. |
| Conclusion 4 | Although a combined CTAF/UNICOM frequency has been known to cause confusion with pilots, airports with separate CTAF/UNICOM frequencies also reported confusion on the part of pilots. It is important to inform pilots fully about frequencies in use. |
| Conclusion 5 | To enhance the use of UNICOM and ensure pilots benefit from available airport advisory services, more education of pilots, ground vehicle operators, and UNICOM operators is warranted. |
| Conclusion 6 | Airports may enhance safety by minimizing vehicle/pedestrian traffic on the movement area and ensuring that vehicle operators communicate on the appropriate frequency to announce intentions. |
| Conclusion 7 | The low rate of airports issuing audible airport advisories may be the result of a lack of formal training of personnel and an underlying fear of liability by airports. In addition, airports offering ASOS/AWOS (whether appended or not) and/or wind sock/segmented circle generally consider these to be advisories. |
| Conclusion 8 | It is beneficial to provide on-the-job training for UNICOM operation and proper phraseology to personnel staffing the UNICOM station. |
| Conclusion 9 | There is limited guidance available and little innovation on the delivery of airport advisories at non-towered airports. |
| Conclusion 10 | Everyone at the airport can contribute to airport safety, including pilots, UNICOM operators, airport operators, FBOs, and flight schools. All stakeholders have a vested interest in ensuring airport safety. |

**CONCLUSION 4**

Although a combined CTAF/UNICOM frequency has been known to cause confusion with pilots, airports with separate CTAF/UNICOM frequencies also reported confusion on the part of pilots. In essence, it is important to inform pilots fully about frequencies in use at the airport and to ensure that the personnel issuing advisories are properly trained and issuing appropriate advisories on the appropriate frequency. If frequency congestion is an issue, the airport operator and FAA can work cooperatively to minimize congestion and avoid duplication of frequencies at neighboring airports.

**CONCLUSION 5**

To enhance the use of UNICOM and ensure pilots benefit from available airport advisory services, more education of pilots, ground vehicle operators, and UNICOM operators is warranted. Pilots aware of the option to request airport advisories through UNICOM maintain a more robust toolkit of resources to operate safely at the airport. Ground vehicle operators, who often are airport maintenance or operations staff, benefit from maintaining situational awareness on the airfield and giving the right-of-way to aircraft. Training of personnel who staff the UNICOM, with the possibility of requiring pilot experience, was identified as beneficial. In reality, redundant systems are in place to support airport safety, such as notices to airmen (NOTAMs), lighted X to indicate closures, AWOS/ASOS, and airport advisories.

**CONCLUSION 6**

Minimizing vehicle/pedestrian traffic on the movement area enhances airport safety. Airport safety is enhanced when only personnel with a need for access to the movement area, such as airport operations, maintenance, and aircraft rescue firefighting (ARFF) personnel, are granted access to the movement area and only after thorough training. Airport safety also is enhanced when airports ensure that vehicle operators communicate on the appropriate frequency to announce their intentions to pilots.

**CONCLUSION 7**

The low rate of airports issuing audible airport advisories may be the result of a lack of formal training of personnel and an underlying fear of liability by airports. Less qualified personnel are hesitant to issue airport advisories proactively. In addition, some airports have a UNICOM but prefer not to use it to issue advisories because of the potential liability of transmitting erroneous information or complete reliance on the advisory by the pilot, who may treat it as an air traffic control (ATC) instruction that must be followed.

**CONCLUSION 8**

Personnel staffing the UNICOM station are often pilots, and if not, they have received on-the-job training on UNICOM operation, proper phraseology, and so forth. In fact, many of the airports contacted as part of this study prefer hiring pilots to staff the UNICOM station. Managers of these airports think that by having a "pilot's point of view," the UNICOM operator can generate more useful airport advisories. Providing on-the-job training is standard and more effective for the non-pilots hired to staff the UNICOM station.

**CONCLUSION 9**

An additional finding is that limited guidance is available to airport staff and UNICOM operators regarding training and the method by which to issue advisories and staff a UNICOM station. Most airports train, staff, and operate their UNICOM frequency in the manner the managers think is best, but there is little guidance in this area, so there is variation at non-towered airports across the country. Likewise, there is little innovation at airports in the area of airport advisories. Other than the adoption

of AWOS and ASOS and the ability to append broadcasts, airport advisories have been issued with the same means for decades.

### CONCLUSION 10

Possibly the most important finding of this synthesis is that everyone at the airport can contribute to airport safety, including pilots, UNICOM operators, airport operators, FBOs, and flight schools. All stakeholders have a vested interest in ensuring airport safety, whether or not a UNICOM exists. Airport advisories are beneficial to pilots but are not the sole means of ensuring safety at non-towered airports. As staff of non-towered airports do their part to ensure a safe and efficient airport, it is beneficial to consider the airport issuing airport advisories and how that task is accomplished.

### FUTURE RESEARCH

To enhance the safety of non-towered airports, several areas are suggested for research.

First, because the United States lacks standards and official guidance associated with operating a UNICOM station—including staffing the UNICOM and training personnel operating it—future research on this topic could benefit the development of guidance for UNICOM operators.

Second, research into the reasons more airports have not adopted additional technologies, such as automated UNICOM and Super AWOS, would be helpful. As these more-advanced technologies are introduced, if airport adoption is lackluster, it is important to understand why.

Third, this study found that although 95% of participating airports agree that audible airport advisories are necessary, only 35% actually provide these advisories. Research into the reasons more non-towered airports do not provide audible airport advisories would be beneficial.

Fourth, research that focuses on pilot perspectives would be beneficial. This research could focus on pilot needs for airport advisories and the roles of CTAF, UNICOM, and AWOS/ASOS in obtaining needed information to ensure safety of flight.

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# APPENDIX A

## Airports Included in Study

| Location ID | Airport Name | Associated City | State |
|---|---|---|---|
| BCV | Birchwood | Birchwood | Alaska |
| DLG | Dillingham | Dillingham | Alaska |
| OTZ | Ralph Wien Memorial | Kotzebue | Alaska |
| AUO | Auburn University Regional | Auburn | Ala. |
| 1R8 | Bay Minette Municipal | Bay Minette | Ala. |
| EKY | Bessemer | Bessemer | Ala. |
| 71J | Blackwell Field | Ozark | Ala. |
| 12J | Brewton Municipal | Brewton | Ala. |
| JKA | Jack Edwards | Gulf Shores | Ala. |
| GZH | Middleton Field | Evergreen | Ala. |
| DCU | Pryor Field Regional | Decatur | Ala. |
| 79J | South Alabama Regional At Bill Benton Field | Andalusia/Opp | Ala. |
| M73 | Almyra Municipal | Almyra | Ark. |
| 5M1 | De Witt Municipal | De Witt | Ark. |
| M32 | Lake Village Municipal | Lake Village | Ark. |
| ARG | Walnut Ridge Regional | Walnut Ridge | Ark. |
| AWM | West Memphis Municipal | West Memphis | Ark. |
| BXK | Buckeye Municipal | Buckeye | Ariz. |
| CGZ | Casa Grande Municipal | Casa Grande | Ariz. |
| 1G4 | Grand Canyon West | Peach Springs | Ariz. |
| HII | Lake Havasu City | Lake Havasu City | Ariz. |
| AVQ | Marana Regional | Marana | Ariz. |
| MZJ | Pinal Airpark | Marana | Ariz. |
| P48 | Pleasant Valley | Peoria | Ariz. |
| AUN | Auburn Municipal | Auburn | Calif. |
| C83 | Byron | Byron | Calif. |
| CCB | Cable | Upland | Calif. |
| CPM | Compton/Woodley | Compton | Calif. |
| AJO | Corona Municipal | Corona | Calif. |
| F70 | French Valley | Murrieta/Temecula | Calif. |
| DVO | Gnoss Field | Novato | Calif. |
| HAF | Half Moon Bay | Half Moon Bay | Calif. |
| HMT | Hemet–Ryan | Hemet | Calif. |
| CVH | Hollister Municipal | Hollister | Calif. |
| TRM | Jacqueline Cochran Regional | Palm Springs | Calif. |
| 1O2 | Lampson Field | Lakeport | Calif. |
| LHM | Lincoln Regional/Karl Harder Field | Lincoln | Calif. |
| MAE | Madera Municipal | Madera | Calif. |
| 13CL | Maine Prairie | Dixon | Calif. |

| Location ID | Airport Name | Associated City | State |
|---|---|---|---|
| MCE | Merced Regional/Macready Field | Merced | Calif. |
| L94 | Mountain Valley | Tehachapi | Calif. |
| EKA | Murray Field | Eureka | Calif. |
| VCB | Nut Tree | Vacaville | Calif. |
| O69 | Petaluma Municipal | Petaluma | Calif. |
| PVF | Placerville | Placerville | Calif. |
| SZP | Santa Paula | Santa Paula | Calif. |
| TCY | Tracy Municipal | Tracy | Calif. |
| WVI | Watsonville Municipal | Watsonville | Calif. |
| DWA | Yolo County | Davis/Woodland/Winters | Calif. |
| BDU | Boulder Municipal | Boulder | Colo. |
| EIK | Erie Municipal | Erie | Colo. |
| FNL | Fort Collins–Loveland Municipal | Fort Collins/Loveland | Colo. |
| GXY | Greeley–Weld County | Greeley | Colo. |
| FLY | Meadow Lake | Colorado Springs | Colo. |
| LMO | Vance Brand | Longmont | Colo. |
| CLW | Clearwater Air Park | Clearwater | Fla. |
| DED | DeLand Municipal–Sidney H. Taylor Field | DeLand | Fla. |
| DTS | Destin–Fort Walton Beach | Destin | Fla. |
| 82J | Ferguson | Pensacola | Fla. |
| HEG | Herlong Recreational | Jacksonville | Fla. |
| X51 | Homestead General Aviation | Homestead | Fla. |
| COI | Merritt Island | Merritt Island | Fla. |
| F45 | North Palm Beach County General Aviation | West Palm Beach | Fla. |
| OBE | Okeechobee County | Okeechobee | Fla. |
| LNA | Palm Beach County Park | West Palm Beach | Fla. |
| TPF | Peter O. Knight | Tampa | Fla. |
| 2R4 | Peter Prince Field | Milton | Fla. |
| SEF | Sebring Regional | Sebring | Fla. |
| VDF | Tampa Executive | Tampa | Fla. |
| MTH | Florida Keys Marathon | Marathon | Fla. |
| X59 | Valkaria | Valkaria | Fla. |
| VNC | Venice Municipal | Venice | Fla. |
| GIF | Winter Haven's Gilbert | Winter Haven | Fla. |
| FFC | Atlanta Regional Falcon Field | Atlanta | Ga. |
| VPC | Cartersville | Cartersville | Ga. |
| CCO | Newnan Coweta County | Atlanta | Ga. |
| EUL | Caldwell Industrial | Caldwell | Idaho |
| COE | Coeur d'Alene–Pappy Boyington Field | Coeur d'Alene | Idaho |
| MAN | Nampa Municipal | Nampa | Idaho |
| 1C5 | Bolingbrook's Clow International | Bolingbrook | Ill. |
| IKK | Greater Kankakee | Kankakee | Ill. |

| Location ID | Airport Name | Associated City | State |
|---|---|---|---|
| IGQ | Lansing Municipal | Chicago | Ill. |
| LOT | Lewis University | Chicago/Romeoville | Ill. |
| C77 | Poplar Grove | Poplar Grove | Ill. |
| 3K6 | St. Louis Metro–East/Shafer Field | St. Jacob | Ill. |
| VPZ | Porter County Regional | Valparaiso | Ind. |
| EWK | Newton City–County | Newton | Kans. |
| BWG | Bowling Green–Warren County Regional | Bowling Green | Ky. |
| IYA | Abbeville Chris Crusta Memorial | Abbeville | La. |
| HZR | False River Regional | New Roads | La. |
| HDC | Hammond Northshore Regional | Hammond | La. |
| PTN | Harry P. Williams Memorial | Patterson | La. |
| 3R7 | Jennings | Jennings | La. |
| L38 | Louisiana Regional | Gonzales | La. |
| RSN | Ruston Regional | Ruston | La. |
| ASD | Slidell | Slidell | La. |
| FIT | Fitchburg Municipal | Fitchburg | Mass. |
| PYM | Plymouth Municipal | Plymouth | Mass. |
| PVC | Provincetown Municipal | Provincetown | Mass. |
| GAI | Montgomery County Airpark | Gaithersburg | Md. |
| LEW | Auburn/Lewiston Municipal | Auburn/Lewiston | Maine |
| LVN | Airlake | Minneapolis | Minn. |
| 21D | Lake Elmo | St. Paul | Minn. |
| MKT | Mankato Regional | Mankato | Minn. |
| SGS | South St. Paul Municipal–Richard E. Fleming Field | South St. Paul | Minn. |
| LXT | Lee's Summit Municipal | Lee's Summit | Mo. |
| SET | St. Charles County Smartt | St. Charles | Mo. |
| UOX | University–Oxford | Oxford | Miss. |
| BUY | Burlington–Alamance Regional | Burlington | N.C. |
| SUT | Cape Fear Regional Jetport/Howie Franklin Field | Oak Island | N.C. |
| EQY | Charlotte–Monroe Executive | Monroe | N.C. |
| AKH | Gastonia Municipal | Gastonia | N.C. |
| HRJ | Harnett Regional Jetport | Erwin | N.C. |
| JNX | Johnston Regional | Smithfield | N.C. |
| MEB | Laurinburg–Maxton | Maxton | N.C. |
| TTA | Raleigh Executive Jetport At Sanford–Lee County | Sanford | N.C. |
| LHZ | Triangle North Executive | Louisburg | N.C. |
| MLE | Millard | Omaha | Neb. |
| N14 | Flying W | Lumberton | N.J. |
| LDJ | Linden | Linden | N.J. |
| MIV | Millville Municipal | Millville | N.J. |
| BLM | Monmouth Executive | Belmar/Farmingdale | N.J. |
| LRU | Las Cruces International | Las Cruces | N.Mex. |

| Location ID | Airport Name | Associated City | State |
|---|---|---|---|
| BVU | Boulder City Municipal | Boulder City | Nev. |
| CXP | Carson | Carson City | Nev. |
| MEV | Minden–Tahoe | Minden | Nev. |
| RTS | Reno/Stead | Reno | Nev. |
| 9G3 | Akron | Akron | N.Y. |
| HWV | Brookhaven | Shirley | N.Y. |
| 9GG | Buffalo Airfield | Buffalo | N.Y. |
| JRB | Downtown Manhattan/Wall St. | New York | N.Y. |
| MGJ | Orange County | Montgomery | N.Y. |
| CLM | Wurtsboro-Sullivan County | Wurtsboro | N.Y. |
| 5G7 | Bluffton | Bluffton | Ohio |
| HAO | Butler County Regional–Hogan Field | Hamilton | Ohio |
| MGY | Dayton–Wright Brothers | Dayton | Ohio |
| SKY | Griffing Sandusky | Sandusky | Ohio |
| PHD | Harry Clever Field | New Philadelphia | Ohio |
| 1G3 | Kent State University | Kent | Ohio |
| 1G5 | Medina Municipal | Medina | Ohio |
| UNI | Ohio University Snyder Field | Athens/Albany | Ohio |
| 3I7 | Phillipsburg | Phillipsburg | Ohio |
| RZT | Ross County | Chillicothe | Ohio |
| 16G | Seneca County | Tiffin | Ohio |
| TDZ | Toledo Executive | Toledo | Ohio |
| BJJ | Wayne County | Wooster | Ohio |
| 15G | Weltzien Skypark | Wadsworth | Ohio |
| DUA | Durant Regional–Eaker Field | Durant | Okla. |
| FDR | Frederick Regional | Frederick | Okla. |
| CKA | Kegelman Air Force Auxiliary Field | Cherokee | Okla. |
| PNC | Ponca City Regional | Ponca City | Okla. |
| UAO | Aurora State | Aurora | Ore. |
| BDN | Bend Municipal | Bend | Ore. |
| CVO | Corvallis Municipal | Corvallis | Ore. |
| MMV | McMinnville Municipal | McMinnville | Ore. |
| SPB | Scappoose Industrial Airpark | Scappoose | Ore. |
| OQN | Brandywine | West Chester | Pa. |
| BTP | Butler County/K. W. Scholter Field | Butler | Pa. |
| THV | York | York | Pa. |
| AND | Anderson McMinnville Municipal | Anderson | S.C. |
| JZI | Charleston Executive | Charleston | S.C. |
| CUB | Jim Hamilton–L. B. Owens | Columbia | S.C. |
| SPA | Spartanburg Downtown Memorial | Spartanburg | S.C. |
| SYI | Bomar Field–Shelbyville Municipal | Shelbyville | Tenn. |
| GKT | Gatlinburg–Pigeon Forge | Sevierville | Tenn. |
| JWN | John C. Tune | Nashville | Tenn. |

| Location ID | Airport Name | Associated City | State |
|---|---|---|---|
| DKX | Knoxville Downtown Island | Knoxville | Tenn. |
| M91 | Springfield Robertson County | Springfield | Tenn. |
| RKP | Aransas County | Rockport | Tex. |
| TPL | Draughon–Miller Central Texas Regional | Temple | Tex. |
| ERV | Kerrville Municipal/Louis Schreiner Field | Kerrville | Tex. |
| T41 | La Porte Municipal | La Porte | Tex. |
| LNC | Lancaster Regional | Lancaster | Tex. |
| 52F | Northwest Regional | Roanoke | Tex. |
| ODO | Odessa–Schlemeyer Field | Odessa | Tex. |
| LVJ | Pearland Regional | Houston | Tex. |
| HDO | South Texas Regional At Hondo | Hondo | Tex. |
| LBX | Texas Gulf Coast Regional | Angleton/Lake Jackson | Tex. |
| IWS | West Houston | Houston | Tex. |
| TVY | Bolinder Field–Tooele Valley | Tooele | Utah |
| LGU | Logan-Cache | Logan | Utah |
| U42 | South Valley Regional | Salt Lake City | Utah |
| SGU | St. George Municipal | St. George | Utah |
| CJR | Culpeper Regional | Culpeper | Va. |
| PVG | Hampton Roads Executive | Norfolk | Va. |
| JYO | Leesburg Executive | Leesburg | Va. |
| FCI | Richmond Executive–Chesterfield County | Richmond | Va. |
| AWO | Arlington Municipal | Arlington | Wash. |
| S50 | Auburn Municipal | Auburn | Wash. |
| ELN | Bowers Field | Ellensburg | Wash. |
| PWT | Bremerton National | Bremerton | Wash. |
| S36 | Crest Airpark | Kent | Wash. |
| EPH | Ephrata Municipal | Ephrata | Wash. |
| S43 | Harvey Field | Snohomish | Wash. |
| 0S9 | Jefferson County International | Port Townsend | Wash. |
| VUO | Pearson Field | Vancouver | Wash. |
| PLU | Pierce County–Thun Field | Puyallup | Wash. |
| BVS | Skagit Regional | Burlington/Mount Vernon | Wash. |
| CLM | William R. Fairchild International | Port Angeles | Wash. |
| BUU | Burlington Municipal | Burlington | Wis. |
| FLD | Fond du Lac County | Fond du Lac | Wis. |
| SBM | Sheboygan County Memorial | Sheboygan | Wis. |
| RYV | Watertown Municipal | Watertown | Wis. |
| Cod | Yellowstone Regional | Cody | Wyo. |

# APPENDIX B

## Survey Interview Script

Hello, my name is Dr. Daniel Prather and I am conducting research on behalf of the Airport Cooperative Research Program. ACRP is a program of the National Academy of Sciences funded by the FAA through aviation fuel taxes. Airport advisory practices at non-towered airports are being studied nationwide in hopes of discovering most effective practices. The results of this study will be available nationwide and widely distributed to non-towered airports.

1. Will you agree to participate in this 5–10 minute phone survey?
   a. Yes—(continue)
   b. No—Is there someone else at your airport, such as an FBO or flight school that I should speak with about this study? If yes, record name and number. [Document if speaking to someone other than airport manager.]
2. In what manner does your airport provide airport advisories to pilots (if the pilot requested "airport advisory"), i.e., wind direction and velocity, favored or designated runway, altimeter setting, known airborne and ground traffic NOTAMs, airport taxi routes, airport traffic pattern information, and instrument approach procedures in use? [Check all that apply.]
   a. Audible airport advisory
      i. What type of response?
      ii. Who responds?
      iii. What equipment, procedures, or information are utilized by those providing airport advisories?
      iv. Are there any special certifications (i.e., trained weather observer) or training required for those providing airport advisories?
   b. ASOS/AWOS
   c. Wind sock, segmented circle, etc.
   d. Pilots of other aircraft
   e. Observe other aircraft
   f. None of the above
   g. Other _____
      i. If airport advisories were available, do you feel that pilots would take advantage of this service?
      ii. How would a departing pilot normally determine which runway to use?
      iii. How would an arriving pilot normally determine which runway to use?
      iv. Why are airport advisories not available at your airport?
3. Is there a difference between what is published and what is normally actually followed?
4. What procedure do airport operations/maintenance/ARFF vehicles follow at your airport to proceed safely onto the movement area and runway?
   a. Are any calls made?
   b. What frequency do they monitor?
5. Does the CTAF at your airport serve as UNICOM, MULTICOM, and/or FSS?
   a. What is the frequency?
   b. Is automated airport advisory information broadcast on this frequency (like ATIS)? If not, is there automated airport advisory information broadcast on another frequency?
   c. Is bleed over ever an issue with nearby airports sharing same frequency?
   d. Do pilots consistently communicate their intentions over the CTAF?
   e. Do you feel that pilots could do a better job of communicating intentions over the CTAF?
6. Does your airport have any of the following? [If so, how effective are they?]
   a. Local Airport Advisory (provided by FSS on field)
   b. Remote Airport Advisory
   c. Remote Airport Information Service
7. What are the hot spots on your airfield? Is there documentation of this?
8. What are you doing to minimize incidents/incursions at your airport?
9. How do you feel airfield safety related to airport advisories could be improved at your airport?
10. Do you feel changes to airport advisories would improve aviation safety? If so, what types of changes?
11. What lessons has your airport learned regarding the use, misuse, or absence of airport advisories?
12. Did your airport develop a contingency plan for possible tower closure? If so, would you be willing to share?

# APPENDIX C

# Case Example Interview Script

Hello, my name is Dr. Daniel Prather. Recently, you assisted us with a telephone interview on airport advisory practices in place at your airport. We would like to highlight your airport and the effective practices you have in place as a case example in our ACRP synthesis report. May I ask you a few more questions?

1. Who issues or provides airport advisories at your airport (i.e., who runs the UNICOM)?

2. Is training required?

3. Do you have a procedure/policy for UNICOM?

4. What percentage of pilots request an airport advisory at your airport?

5. Have advisories enhanced safety at your airport? How?

6. What would you say to other non-towered airports that do not issue airport advisories?

7. Any lessons learned?

# APPENDIX D

# NASA Aviation Safety Reporting System Reports Filed at Airports in Study

Note: Pertinent sections underlined.
Note: Only those ASRS reports that identified the presence or lack of an airport advisory, even if on ASOS/AWOS, as a partial factor in the narrative are shown. ASRS Reports indicating pilot communications, in the form of self-announcing intentions, even if on a combined CTAF/UNICOM, are not shown. Airport identifier appears in bold above the corresponding narrative & synopsis. Pertinent statements to this project, according to the consultant, are underlined.

**ASRS Report 1: VPZ**

**Narrative: 1**
Aircraft being test flown after annual inspection. Preflight and taxi to Runway 27 uneventful. ASOS reported winds 240/8. Shortly after takeoff heard following comment on UNICOM. "Porter County what's up with the aircraft on 27?" I queried Porter County and they informed me 27 was closed. I completed the flight and landed uneventfully on Runway 18.

I discovered the following: 27 had been NOTAMed closed for the day because of surveying. There was no mention of the closure on ASOS. Porter County personnel informed me they are not allowed to put that info on ASOS. Lessons learned: ASOS is not the same as ATIS. Although the closure would have been verbalized on ATIS, it was not on ASOS. Continue to check daily NOTAMs - even on a clear VFR day at a familiar airport. There were no signs, construction, or personnel in sight on the closed runway, and the runway was still closed. Do a radio check before initial taxi. This would have given Porter County an additional opportunity to inform me 27 was closed for the day.

Action: Porter County informed me they had multiple aircraft attempt to use 27 that day, including the local flight school. I understand the requirement to check NOTAMs. I feel Porter County should be allowed to also put that information on ASOS. If an aircraft had to use 27 quickly for an emergency landing in most cases they would listen to ASOS and not have time to check NOTAMs.

**Synopsis**
A pilot took off for a short flight from VPZ Runway 27 which was NOTAMed closed, but he had not checked NOTAMs and noted he monitored ASOS which the airport was prohibited from using as an airport status notification tool.

**Consultant Analysis**
The UNICOM station was used to query an aircraft that had taken off from a closed runway. However, on-field ASOS did not indicate the closure. Pilot feels there is a disconnect between on-field ASOS at this airport and current NOTAMs. Lesson learned: If possible, augment ASOS transmissions with current field information, including closed pavement.

**ASRS Report 2: TRM**

**Narrative: 1**
We were forced to take evasive action three times during a visual approach to Runway 17 at TRM, due [to TCAS] RAs. Approach seemed particularly anxious to have us cancel IFR during descent. Ultimately, we did cancel about 8,000 MSL. ATC did advise us of VFR Bonanza traffic at 10,500 FT which we attempted to avoid by leveling off at 11,000 but which triggered our first RA, which resulted in our first evasive action. This was followed by two more evasive actions at approximately 6,500 and 4,000 respectively. It should be noted that the weather was perfect with unlimited visibility.

Upon arrival we had a discussion with FBO manager about our experience. She informed us that this is the busiest day of the year for them. While fueling we noticed traffic departing and arriving on 17 and 35 without incident.

In my opinion, the exceptional weather was a factor. We would not have experienced any of this in IMC conditions. As far as the airport goes, the UNICOM is listening only, no airport advisories. We did successfully communicate our intentions with two aircraft during arrival, and at least two during departure. My recommendation is to have a Controller from the PSP Tower man the UNICOM at TRM for holiday weekends during season.

**Synopsis**
A CL60 experienced multiple TCAS RAs with VFR traffic while inbound to TRM on a brilliant VMC day.

**Consultant Analysis**
The UNICOM station was not issuing airport advisories at this airport on a busy day. Pilot was in need of an airport advisory. Lesson learned: If an airport has an advertised UNICOM frequency, pilots expect that airport advisories are available upon request.

**ASRS Report 3: AUO**

**Narrative: 1**
We announced our taxi intentions for Runway 18 and started to position ourselves at the hold short line at this uncontrolled airport in excellent VFR conditions. We had landed 15 minutes earlier after being advised by Unicom the active runway was 18. The wind remained out of the south 200 @ 6 knots. After all before take-off checklists were complete I scanned the downwind base and final approach positions and found them to be clear of traffic. The First Officer stated clear right. As I started to position our aircraft onto Runway 18 we observed a [light plane], high and just past us on the upwind leg to Runway 18. The First Officer and I assumed this [light aircraft] was maybe missing a practice approach to Runway 36 but after making a call in the blind to the aircraft they stated that they had departed Runway 36. There was never any collision threat but I certainly would have paused a moment longer before starting to position our aircraft onto Runway 18 for departure. Neither I nor the First Officer heard the [other aircraft] announce his departure. In a post flight discussion our crew discussed the events of earlier in the day and noted the potential hazards of operating at uncontrolled airports and the importance of remaining vigilant at all times.

**Synopsis**
Corporate jet Captain reports an opposite direction takeoff by a light plane at an uncontrolled airport as he taxis onto Runway 18 for takeoff. Both aircraft were on the correct Unicom frequency but the Captain did not hear any announcements from the light plane pilot.

**Consultant Analysis**
Even though UNICOM provided an airport advisory indicating winds favored runway 18, the pilot of a light aircraft departed runway 36, opposite the flow of traffic, according to the airport advisory provided by UNICOM. Lesson learned: UNICOM should only be used to issue airport advisories, and only upon request.

**ASRS Report 4: COI**

**Narrative: 1**
We Took Off On A Vfr Lcl Flt And After Some Airwork Decided To Do Some Lndgs At Coi, A Non Twred Arpt. I Had Chked The Mlb Notams But Not The Coi Notams, Unknown, To Me The Unicom Freq Had Changed And Was Not On The Lcl Chart And Was Not Covered By The Mlb Notams. The Person In The L Seat Called On The Published Unicom Freq And Someone Said Lndg On Rwy 29. Our Airplane Called Downwind, Base And Final. We Landed On Rwy 29. After We Were On The Rwy We Observed The C152 Also On The Rwy. We Both Moved To The R Side Of The Rwy And Passed At A Slow Taxi Spd. There Could Have Been An Accident. The Other Plt Stated He Did Not See Us Until He Was On The Rwy As They Were Practicing An Emer Lndg.

**Synopsis**
C172 Pilot Uses Wrong Unicom Frequency To Announce Intentions To Land At Coi. After Touchdown The Pilot Notices A C152 Rolling Out In The Opposite Direction. They Pass In The Middle At Slow Speed.

**Consultant Analysis**
The incorrect UNICOM frequency was used to request an airporter advisory, as a result of a recent UNICOM frequency change that was not reflected in current charts or NOTAMs. Although the active runway in use provided by the UNICOM operator matched the airport they were flying into, the aircraft landed against the flow of traffic. Lesson learned: Make certain that a UNICOM frequency change is widely communicated and also verify airport in issuing airport advisories.

**ASRS Report 5: X59**

**Narrative: 1**
The Event/Sit Occurred At The Valkaria, Fl Arpt (X59) During The Hrs Near Noon. I Flew My First Flt Of The Day, And Was On My Second Flt When The Unicom Operator Came On Duty. He Immediately Started Talking On The Radio Giving Unsolicited Advice, Such As 'Rwy Is Clr And It'S All Yours.' I Had Not Asked For Any Info About Rwy Or Anything Else. I Had Announced That I Was Back Taxiing Rwy 14 For Immediate Tkof On Rwy 14. During The Next Several Flts This Unicom Operator Continued To Pass Out Unsolicited Advice To Anybody And Everybody. He Was Trying To Play Acft Ctlr By Telling 'Acft On Downwind,' 'Acft On Final' And On And On. In One Case There Were 3 Acft In The Tfc Pattern. I Was One Of Them, And 4 Acft Doing A Flyby At 1000 Ft Over Rwy 14. The Unicom Operator Was Telling Them About Noise Abatement Over The Houses E Of The Arpt. At That Point I Told Him 'Mr X, You Are Messing Things Up.' I Don't Know If That Is Why He Finally Slowed Down But I Didn'T Hear Much From Him After That. I Think Someone Else May Have Talked To Him Also. This Man Has Been Talked To Before At This Arpt About Trying To Play Acft Ctlr But He Continues To Do So. In The Interest Of Safety I Think This Man Should Be Gone From The Arpt Before He Causes Someone To Get Hurt. This Man Is Bad News. Supplemental Info From Acn 594990: The County Official On Duty At X59, Valkaria Arpt, Mr X, Was Offering Unsolicited Advice To Acft In The Pattern, Was Stepping On Acft Giving Their Pos Rpts. Mr X'S Xmissions Were Directly Interfering With The Orderly Flow Of Acft In The Volunteer Op. I Have Suggested That Valkaria Unicom Remain Silent With 2 Exceptions: 1) If Requested For Arpt Advisories Or 2) To Alert Acft Of Impending Disaster. This Is A Non-Twred Arpt And The Unicom Should Not Be Used As An Atc Medium.

**Synopsis**
An Over-Zealous Unicom Operator Was Creating A Hazardous Condition While Attempting To Act As An Air Tfc Ctlr At A Non Twred Arpt At X59, Fl.

**Consultant Analysis**
The UNICOM operator at this airport was offering ATC-like instructions, rather than simple airport advisories upon request. Pilot states this UNICOM operator is creating an unsafe airport. Lesson learned: UNICOM should only be used to issue airport advisories, and only upon request.

**ASRS Report 6: F70**

**Narrative: 1**
I Crossed The Hold Line After Announcing That I Was Taking Off On Rwy 36 At F70 (French Valley). I Heard An Apl Announce Downwind For Lndg On Rwy 36 And Saw That He Was Mid-Field. After Just Xing Hold Line I Heard Unicom Advise That There Was A Plane On Final. I Stopped Just Across The Line And A Twin Came In And Landed. I Had Not Heard This Airplane Plt Make Any Pos Rpts. He Absolutely Did Not Call Base Or Final Apch. Since I Was In A High Wing Airplane I Couldn'T See Him. (He Made A Normal Lndg.)

**Synopsis**
Just After Taxiing Across Rwy Hold Line And Announcing Intentions To Use The Rwy At Non Twr Arpt, The Plt Heard Unicom Advise Of An Acft On Final That He Had Not Seen Or Heard From During Taxi And Run-Up.

**Consultant Analysis**
The UNICOM operator notified pilot of landing traffic to avoid a collision after having observed a runway incursion. Lesson learned: The UNICOM operator can enhance airport safety by observing traffic and issuing advisories as appropriate.

**ASRS Report 7: AUO**

**Narrative: 1**
Had A Trip To Auburn, Al (Auo). Got A Wx Briefing From Duats Including Fdc Notams And Notam D'S. Only Notam Given Was Vor Dme Portion Of Apch Not Authorized. Since I Wasn'T Flying An Acft So Equipped, I Wasn'T Concerned. My Coplt Also Received A Wx Briefing Via Duats. He Received The Same Info On Duats About Notams. You Can Imagine My Surprise When I Called Downwind For Rwy 36 Only To Be Told By Unicom That Rwy 36 Was Closed. We Saw The Construction Area S Of The Rwy. Other Than Being Embarrassed, Things Went Fine As It Was Day, Vmc With Great Visibility. Even Without The Info From Unicom We Could Have Figured Things Out. We Chked Published Notams And Found Nothing. Even When We Departed, We Received A Wx Brief From Lcl Fss And Received No Notams On This. The Arpt, Of Course, Had Posted The Rwy Closure And The Lack Of All Apchs. In Light Of The Aspen Crash, And The Question Surrounding Notam Dissemination, I Find This Disturbing! What If We Had Been Imc -- Would Apch Have Clred Us For An Apch To A Closed Rwy? Even More Disturbing Is The Same Thing (Lack Of Notam Dissemination) Is True With Regard To Bowman Field In Louisville. I Am Going Through For Derby And Chked -- No Published Notams, No Fdc Notams, And Only Notam 'D' Is 1 Rwy Closure. I Found Out Accidentally From A Friend Who Is A Lcl (Bowman) Plt. Needless To Say, With No Auth Apchs, I Will Be Going To Juy For The Derby. Heads Up -- Just Because You'Re Not Told Doesn'T Mean There Are No Closures.

**Synopsis**
After Carefully Chking Notams Prior To Flt To Auo, A Cpr Crew On Ifr Apch Were Surprised To Find The Rwy 18-36 Closed At The Ctaf Arpt.

**Consultant Analysis**
The UNICOM operator notified a pilot of a closed runway, after that pilot announced an approach to that runway. Even though a NOTAM had been issued by the airport, FSS did not provide said NOTAM during a pilot briefing. Lesson learned: The UNICOM operator can enhance airport safety by observing traffic and issuing advisories as appropriate.

**ASRS Report 8: VNC**

**Narrative: 1**
Unicom Freqs Are Too Crowded With Plts Trying To Keep Track Of Each Other. Flying From My Home Arpt Of Venice, Fl, I Can Hear Plts Calling In To 9 Different Arpts. While Trying To Give My Pos, I Can Hear Plts Doing The Same Thing From Venice, Sebring, Charlotte County, Wymama, Leesburg, Winter Haven, Lanatana, Keystone And Crystal River. There Is No Time That The Air Is Clr. I Have To Start Xmitting When Someone Else Is On The Air. I Do Not Know If My Message Went Through Or If Perhaps It Was Unreadable, Coming Through As A Loud Squeal. Venice Is

Not The Only Arpt With This Prob. When I Fly Xcountry I Run Into The Same Prob At Every Non Ctled Arpt I Come To. We Need More Freqs To Use For Unicom. A First Step Would Be To Use The .05 Freqs Like 122.75 And 122.95. We Would Have Fewer Arpts In Close Prox Using The Same Freq. I Received A Com That Said We Should Be More Careful When Arriving At Arpts, Looking Around More And Announce Our Pos On Unicom. This Is Impossible To Do With The Freqs As They Are. It Is A Very Dangerous Sit. Please Give Us More Freqs To Use For Unicom Which Will Help Us Avoid Accidents. We Have Radios With The Freqs, Let'S Use Those Extra Ones.

**Synopsis**
Rptr Complaint Of Freq Congestion At Most Non Twr Arpts Unicom.

**Consultant Analysis**
Pilot reports of severe frequency congestion on UNICOM frequency, owing to close proximity and identical frequencies at neighboring airports. Lesson learned: If possible, airports should work with the FAA and FCC to minimize frequency congestion and avoid duplicate frequencies at neighboring airports.

**ASRS Report 9: BLM**

**Narrative: 1**
On Dec/Thu/02, The Capt And I Arrived For Our Flt At Xa00 At Fll. After A Routine Preflt And Wx And Notam Chk, We Discovered That Blm Was Closed On Dec/Wed/02 And Would Be Open Again On Dec/Thu/02 At Xa00Z On Our Arr Date. The Wx Was Clr With A Ne Wind. The Arpt Was Spotted A Few Mi Out And Mcguire Apch Clred Us For A Visual Apch. There Was No Mention To Us About The Arpt Being Notamed Closed At Xb00 After We Had Already Left Fll. We Called Unicom And Did Not Receive Any Response. We Made Normal Location Rpts And Landed On Rwy 32. After Shutdown, We Went To The Fbo And Were Informed That The Rwy Was Closed. The Rwy Was Notamed Closed After Xa00, At Which Time We Were Already In The Air Enrte. Mcguire Apch Nor Blm Unicom Informed Us That The Notam Had Taken Effect.

**Synopsis**
F150 Lands At Blm On Closed Rwy.

**Consultant Analysis**
Pilot reports of no response from UNICOM regarding runway closure. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request.

**ASRS Report 10: ELN**

**Narrative: 1**
My Student And I Went On A Xcountry Flt From Our Lcl Arpt To Eln, Wa. Prior To Departing, I Received A Thorough Briefing From The Lcl Fss. The Only Notam That Was Mentioned Was An Unlighted Twr. About 20 Mi From The Eln Arpt, We Tuned Into The Asos. The Wind Was Variable At 4 Kts. I Chked The 'Flt Guide' And Saw That The Preferred Rwy With Winds Under 5 Kts Is Rwy 7. We Had Been Monitoring The Ctaf For 10-15 Mins And There Was No Rpted Tfc, And We Were Coming Off Of The V2 Airway, And We Were Lined Up Straight-In For Rwy 7. We Announced A 5 Mi Straight-In Final And A 3 Mi Final For Rwy 7. We Taxied For Tkof To The Xing Rwy 29. After Announcing 'Taking Off Rwy 29, Straight Out Dep,' We Were Informed By Unicom That We Had Just Landed On A Closed Rwy (Rwy 7). After Tkof And Clbing To A Safe Alt, We Circled And Flew Along The Entire Length Of Rwy 7/25 To Confirm That There Was Not A Yellow X Painted On The Rwy, And There Was Not! We Informed Unicom That We Had Not Seen Any Notams Pertaining To A Closed Rwy, Nor Any X'S On The Rwy. After Lndg, I Consulted The Afd And Saw That, Listed In The Remarks Section At Eln, Rwy 7/25 Is Closed. I Guess I Learned A Lesson: Consult The Afd Prior To Lndg At Any Unfamiliar Arpt. But Why Were There Not Any X'S On The Closed Rwy? Even A Temporary One? And Why Were There Not Any Notams Out For This? Any Why Wasn'T There Any Notice Put On The Asos Warning Of The Closed Rwy? I'Ve Heard Similar Notices On Other Asos'S. And, Better Yet, Why Didn'T Unicom Inform Me Of The Closed Rwy After I Announced Final For Rwy 7? Twice?

**Synopsis**
A C172 Instructor And Student Landed On A Closed Rwy At Eln.

**Consultant Analysis**
Pilot lands on closed runway because of his unawareness of the runway closure. UNICOM station did not provide notice of closed runway, nor did ASOS. Closed runway was also not indicated closed with Xs. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request.

**ASRS Report 11: PWT**

**Narrative: 1**
Accidentally Left Tail Stand In Place And Taxied Out To Rwy. Unicom Called And Told Me, So I Shut Down And Removed And Stowed The Tail Stand. Landed In Pwt Around Xb00. A Quick Turn Then To Bfi. Normally, I Don'T Put The Tail Stand In Since We Just Add A Few Boxes In The Front. This Time, I Put It In Expecting A Greater Load. Contributing Factor Was A Break In Routine (Putting The Stand In Place). Also, A Quick Turn And Choosing Not To Take One Last Walkaround The Plane. To Prevent Recurrence, Must Take Time To Walk Around Even On A Quick Turn Before Entering Flt Deck. The Time Pressures Are Only Perceived To Be There. There Is Always Time For Thoroughness And Safety. Fixed Prob: Put Cotter Pin With Red Streamers So Tail Stand Is More Noticeable.

**Synopsis**
Bn-2Amk Iii Trislander Cargo Plt Left Tail Stand Attached During Taxi Out Resulting In Unicom Operator Alerting Him To The Error.

**Consultant Analysis**
Pilot is notified by UNICOM operator of aircraft tail stand left in position on taxi out. Lesson learned: UNICOM station can monitor airport activity and notify pilots of hazards to prevent accidents.

**ASRS Report 12: PWT**

**Narrative: 1**
It Was A Clear Day, Wind Calm, When I Decided To Make A Practice Ils Apch On Rwy 19 At Bremerton Arpt, Wa, (Kpwt). The Bremerton Awos Rpted The Wind To Be Calm. When I Called Pwt Unicom For Rwy In Use, I Received No Answer. When Intercepting The Ils Outside The Outer Marker, I Announced On The Ctaf That I Was On A Long Final For Rwy 19 At Bremerton. When On 1 1/2 Mile Final I Announced On The Ctaf That I Was On Short Final For Rwy 19 At Bremerton. When On 1/2 Mile Final, I Observed Light Single Engine Acft Climb Out In The Opposite Direction Of My Flt. That Airplane Was In My Estimation Then 900 Ft Above Me, And 2000 Ft To The L Of Me. At No Time Were We Close To A Nmac. Throughout The Apch The Only Radio Com That I Heard On The Ctaf Was Tfc That Appeared To Be Flying To Or From Skagit Regional Arpt, (Kbvs), At No Time Did I Hear Any Bremerton Tfc Info. Callback Conversation With Rptr Revealed The Following Info: Rptr Indicated That He Had A Face To Face Encounter With The C150 Plt Later, Who Accused Him Of Not Maintaining A Listening Watch On Ctaf. Rptr Contends That He Monitored The Ctaf For The Pwt Arpt And Never Heard The C150 Announce His Intentions That He Was Departing From The Opposite End Of The Rwy.

**Synopsis**
Be18 On A Short Final To Rwy 19 At Pwt, Encounters A C150 On Its Climb Out Form The Opposite Direction.

**Consultant Analysis**
Pilot reports of no response from UNICOM regarding airport advisory request. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories can be issued upon pilot request.

**ASRS Report 13: SUT**

**Narrative: 1**
While Holding Short Of The Rwy (Single 4000 Ft) On The Txwy. My Student And I Heard An Indistinct Transmission On The Acft Radio Neither Of Us Made Out What It Was. I Instructed The Student To Visually Clr The Apch Path Which He Did. We Radioed That We Were Back Taxing On Rwy 23 Then Taxied On To The Active. Just As We Were On The Rwy, Unicom (In The Fbo) Advised There Was An Acft On Final. I Looked And Saw The T-34 On A Close In L Base To Final. I Immediately Took Control Of Our Acft And Taxied Onto The Grass. The T-34 Landed And Taxied Off The Txwy We Had Just Been On. We Never Saw The T-34 Because He Made A Low Left Base And Was Obscured By The Trees Off The L Side Of The Rwy. I Don't Believe We Could Have Prevented This Because We Didn'T Hear Him Or See Him Until He Was On Short Final. A Fairly Busy Unicom Frequency Also Contributed To My Not Recognizing A Base To Final Call Also Played A Part. Callback Conversation With Rptr Revealed The Following Info: Rptr Was Positive That The Main Prob Was The Low Apch And Close Pattern Of The Second Acft. He Was Obscured By The Trees. The Quality Of His Radio Com Was Very Garbled And Not Understandable. He Feel The Trees Should Be Cut. But Also That The Standard Pattern Procs Need To Be Followed. He Felt His Action Was Not Dangerous As The Grass Is Often Used For Lndgs And Is Very Suitable For Acft Movement. He Felt There Was Not Real Danger As The Other Acft Would Have Seen His Acft On The Rwy. The Trees Are Located On Pvt Property Adjacent To The Arpt, Not On The Arpt Property.

**Synopsis**
Instructor With Student Back Taxies On Rwy (No Txwy) And Is Informed By Unicom Of An Acft Turning Onto Final. He Taxied Onto Grass Next To Rwy Which Is Often Used For Lndg Practice And The Second Acft Lands.

**Consultant Analysis**
Pilot reports the UNICOM operator advised of an aircraft on final approach, as his aircraft was back taxiing on the runway, thereby preventing a collision. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories can be issued upon pilot request.

**ASRS Report 14: HAO**

**Narrative: 1**
Gps Apch To Hao (Gps 11). Wx Clr 6 Sm Visibility, Winds At 040 Degs 4 Kts. Contacted Hao Unicom 50 Nm Out To Pull Out Company Car And Be Preparing To Receive Acft. No Tfc Rpted. With Wind Conditions, Chose To Land On Rwy 11. Contacted Cincinnati Apch And Clred For Gps 11 Apch. At 5 Nm, Terminated Ifr And Asked For Any Tfc In Area -- None Rpted By Apch. Switched To Unicom And Made Several Calls On Advisory Freq 123.05. No Response From Any Acft. On Short Final At 200-300 Ft Agl (With All Lights On), Received Xmission On Unicom From Another Plt On Gnd That A Piper Cub Was On Short Final Rwy 29 (Same Rwy, Different Direction). Saw Cub Touching Down At Opposite End. Made Full Pwr Wave-Off And Clbed To Pattern Alt. Cub Executed Touch-And-Go And Stayed In Pattern. We Then Made Uneventful Lndg. Cub Was Not Equipped With Radio (Even Hand-Held) Or Lights. Unicom Never Rpted Tfc In Area (Man Inside Reading Newspaper). This Is A Dangerous Sit That Could Have Resulted In 5+ Fatalities. Cub Plt Told Fbo Mgr To F___ Off When Asked Previously About Ops Without Radio. This Has Got To Stop Or I Will Move Acft To A Ctled Field.

**Synopsis**
A Cpr Jet Plt Was Forced To Go Around By An Acft Operating Without Radios Or Lights At Hao.

**Consultant Analysis**
Pilot reports of no response from UNICOM regarding runway closure. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request.

**ASRS Report 15: MGY**

**Narrative: 1**
Plt Received 2 Briefings From Fss, For 2 Individual Flts Originating From And Returning To Mgy. Ifr Flt Plans For Both Flts Were Filed And Activated. Neither Fss Briefer Advised Plt Of Any Notam For Rwy Closure. Final Flt Departed Mgy For Uni At Xa35 Lcl. No Notice Of Rwy Closure Was Posted At Mgy. Final Leg Of Second Flt Departed Uni At Xf05 Lcl, And Zid Issued Ifr Clrnc To Mgy. When Flt Was Approx 30 Nm From Mgy, Dayton Apch Advised That Rwy 02/20 (The Only Rwy) At Mgy Was Closed Effective Xa00 And Requested Intentions Of Plt. After Ineffective Attempts To Get Clarification Of Sit From Unicom, Plt Canceled Insts And Advised Atc Of Intention To Make Low Apch, Light Up Rwy, And Determine If Rwy Was In Fact Closed And If Lndg Could Be Safely Accomplished. On First Low Apch, Unidented Persons On Unicom Falsely Advised Plt That Rwy Was Closed And That There Was Painting Equip On Rwy. Plt Executed 2 Low Apchs, Determined That Rwy Was Free Of Obstructions And That No Closure Markings (X'S) Were Displayed. During Third Low Apch, Unidented Party On Unicom Once Again Falsely Advised Plt That The Rwy Had Paint Cans And Equip On It. Lndg Was Accomplished Without Incident. After Eng Shutdown, Plt And Pax Were Accosted By Individual Claiming That His Painting Crew Had Been Endangered And Threats Of Reprisals By Faa. This Potentially Dangerous Sit Should Have Been Avoided: By Having Notams Which Advise Of Closure Of All The Rwys At A Given Arpt Stated In Terms Of Arpt Closure Not Rwy Closure. Fss Specialists Should Always Advise Of The Closure Of Arpts Of Intended Ops During Preflt Briefings. Program Atc Computers To Not Accept Ifr Flt Plans Which Would Propose Lndgs At Arpts During Time Of Closure. Prohibit Atc From Issuing Ifr Clrncs To Arpts Which Are 'Closed.' Outlaw The Xmission Of Bogus Field And Or Rwy Conditions On Unicom. Advise All Arpt Operators That 'Closed Rwys' Are To Be Designated By The Display Of Appropriate Markings (Large X'S).

**Synopsis**
A Plt Of A C402 Was Advised Once By Apch, Then Twice By Mgy Unicom, That The Arpt Was Closed Because of Painting Equip On The Rwy. Assessing The Unicom Info As False The Plt Landed Anyway And Was Then Accused Of Endangering People And Property.

**Consultant Analysis**
Pilot reports of inaccurate advisories on UNICOM regarding closed runway because of painting. Lesson learned: UNICOM station be should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request. NOTAMs should be issued to indicate closed pavement and Xs used to visually indicate closed runways.

**ASRS Report 16: LDJ**

**Narrative: 1**
2 Acft Attempted A Simultaneous Dep In Opp Directions On The Same Rwy. This Was Discovered During Rollout. Sma X Aborted Tkof. Sma Y Continued Dep, Rwy 9, With Quick Turn To S. Prior To An Ifr Dep From The Uncontrolled Field, Fbo Personnel Advised The Sma X Plt That Rwy 9 Deps (Ifr) Were Discouraged By Ewr Dep Ctl--Long Delays Could Be Experienced If Requesting This Direction. Sma X Taxied Ot Dep End Of Rwy 27 For Run-Up And Clrnc Delivery. Other Acft Were Departing Rwy 9. Wind Appeared To Be Calm, But Wind Sock Favored Rwy 9. Prior To Dep, The Sma X Advised Unicom Of Its Intentions. Before Taking Rwy, Lndg Lights And Strobes Were On. Immediately After Beginning Tkof Roll, Unicom Announcement Was Made By Gnd Acft Of Fbo Of Conflicting Tfc On Rwy.

X Immediately Terminated Dep. Y Continued Dep And Collision Was Avoided By About 2000'. X Back-Taxied To 27 For Dep. Unicom Comment Was Made By Fbo Or Other Gnd Acft That Y Did Not Have "A Good Radio." X Then Announced Dep Rwy 27 And Left W/O Further Incident. The Sma Y Announced Over The Radio That The Incident, ". . . Scared The Zz Out Of Me." Factors Contributing To The Incident Included Time Of Day (Dusk) And Dep Into Setting Sun, Failure Of Y To Monitor Or Hear X Dep Announcement, Reluctance Of Ewr Dep To Accept Rwy 9 Ifr Deps. The Situation Could Be Avoided With A Vfr Rwy 9 Dep (Upwind), Followed By A Normal Tfc Pattern Dep. This Dep Proc Should Be Encouraged By Atc And Lcl Plts.

**Synopsis**
Uncontrolled Arpt 2 Sma Acft Plts Started Simultaneous Tkofs From Opposite Ends Of Same Rwy. Reporter Aborted His Tkof, Other Acft Continued Tkof.

**Consultant Analysis**
Pilot reports that UNICOM operator advised of proper procedures at the airport. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including proper procedures) can be issued upon pilot request.

**ASRS Report 17: LNC**

**Narrative: 1**
Apched Lnc, An Uncontrolled Field For Lndg On Rwy 13. Preflt Briefing And Other Lcl Arpts Using S Oriented Rwys. Announced Intentions To Enter Pattern On Standard Basis And Announced Downwind, Base And Final. Sma B Also Announced Pattern For 13. An Smt C Announced For Rwy 31. I Asked For Clarification On Unicom (122.7), But Received No Response. Turning Final, I Noted A Small High Wing Sma D Departing 31. He Turned E, I Turned W. 2 Other Inbnd Acft Also Asked For Advisories When Apching Lnc. No One In The Air Or On The Gnd Acknowledged Or Responded. The Active Fbo At Lnc Was Monitoring 122.7. It Is Not Known If Gnd Com To The Fbo/Pattern Tfc Was Possible. A Potentially Embarrassing, If Not Dangerous, Situation Was Avoided Owing to the Vigilance Of Departing Acft And Me. Comfortable Avoidance Was Executed. Perhaps Radio Technique Should Be Stressed For Plts Typically Operating From Uncontrolled Field During Bfr'S. More Unicom Ctaf Freqs Should Be Available To Aviation. 122.7 Is A Congested Freq In The Lnc Area. It Is Possible Other Broadcast Concurrent With My Announcements.

**Synopsis**
Traffic Troubles At An Uncontrolled Arpt.

**Consultant Analysis**
Pilot reports of no response from UNICOM regarding runway closure. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request.

**ASRS Report 18: BTP**

**Narrative: 1**
While Flying In The Vicinity Of Mc Ville Arpt, I Decided To Fly To Butler To See The New Wx Computer Sys. Enrte, I Listened To The Ctaf For Butler, 122.8, And Heard Acft Announcing Tkofs And Lndgs On Rwy 26 At Butler. Upon Arr, I Announced On The Radio Entry Into The Tfc Pattern For Rwy 26 And Entered The Downwind For That Rwy At A 45 Deg Angle. I Noticed An Acft At Approx 100' Which Had Apparently Just Taken Off From Rwy 26. This Tended To Confirm My Belief That Rwy 26 Was The Active Rwy. I Continued My Downwind And Announced On The Radio A Left Base For Rwy 26. I Then Noticed Machinery At The Overrun Of Rwy 26 Sitting On The #'S. I Also Noticed A Car Come Off The Txwy, Onto The Rwy And Then Into The Overrun. The Car Stopped In The Overrun. I Announced On The Radio That I Was On Final For Rwy 26 And Lined Up With That Rwy. It Then Appeared That This Rwy'S Threshold Bars Began Halfway Down The Rwy. I Assumed That The Beginning Part Of The Rwy Was Closed And Therefore Landed Beyond The Threshold Bars. At No Time Did I See Any Markings On The Rwy To Indicate It Was Closed For Its Entire Length. At No Time Did I Receive A Radio Message That Rwy 26 Was Closed. I Proceeded To The Plt Shop And Was Confronted By An Engineer Who Told Me I Had Landed On A Closed Rwy. On Departing, This Time Using The Txwy For Rwy 26 After Observing Other Acft Using The Txwy, I Noticed At The End Of Rwy 26 That There Was A Dark Orange X That Was Not Very Noticeable. It Appeared To Be Made Out Of Line And Was Located At The Threshold Of Rwy 8. During This Time, There Was A Woman On The Unicom But She Made No Attempt To Tell Me That Rwy 26 Was Closed And That The Parallel Txwy Was Being Used Instead. I Saw No X Prior To Lndg, Just Vehicles At The Overrun. This Incident Was Created Because A Rwy Was Apparently Closed At An Uncontrolled Field W/O Placing Clear Markings On The Rwy To Indicate Its Status. This Was Further Compounded By All The Acft Using The Arpt And The Arpt Unicom Xmitting That Rwy 25 Was Active W/O Indicating That In Fact Lndgs And Tkofs Were Being Made From The Txwy. Callback Conversation With Rptr Revealed The Following: Reporter Would Only Say "Talk To My Lawyer."

**Synopsis**
Plt Of Sma Landed At Uncontrolled Arpt On Rwy With Construction In Progress, Obscured X, Not Very Noticeable. Traffic Using Parallel Txwy For Lndg And Tkof. Notam Regarding Rwy Closed Had Been Issued.

**Consultant Analysis**
Pilot reports that UNICON operator did not indicate runway was closed and operating were being conducted on the taxiway. Lesson learned: UNICOM station should be staffed and UNICOM frequency monitored so that advisories (including runway closures) can be issued upon pilot request.

**ASRS Report 19: 15G**

**Narrative: 1**
I was the pilot of a light aircraft. Practicing a Soft-Field Takeoff from the Right Seat, in preparation for a CFI Checkride. The second aircraft was being taxied for maintenance purposes with the upper cowling removed. This aircraft was not making any transmissions on the CTAF (Common Traffic Advisory Frequency). As we approached rotation speed, approx. 45 mph, the second aircraft taxied onto the active runway. Had I not taken immediate evasive action, a collision may have resulted. Upon seeing the aircraft enter the active runway, I immediately closed the throttle and applied maximum braking. No response or transmissions were made from the other aircraft, which cleared the active and continued taxiing. This is not the first type of event at 15G. Last year, a truck entered the active runway and collided with a Cessna 150 that was in the flare. Measures have been taken to ensure pedestrians, motor vehicles, etc, remain off of the runway/taxiway environment. Obviously, we must focus our actions on preventing aircraft from creating a hazard to other aircraft. This would have been prevented if: 1.) Proper visual lookout was maintained by the person taxiing the other aircraft, 2.) The person taxiing the other aircraft was making and receiving traffic advisories over the CTAF. As pilots, we must always emphasize the See and Avoid concept. Whether operating an aircraft with the intention of flight or not, we must continue to keep a lookout for other air traffic and maintain proper situational awareness at all times.

**Synopsis**
Light plane pilot on takeoff roll at uncontrolled airport reports runway incursion by another aircraft taxiing for maintenance. Takeoff is aborted and other aircraft continues on across runway without communication.

**Consultant Analysis**
Pilot reports of near collision on runway with another aircraft, as well as vehicle-aircraft collision that recently occurred. Lesson learned: Minimize vehicle/pedestrian traffic on the movement area and ensure that vehicle operators communicate on the appropriate frequency to announce intentions.

**ASRS Report 20: JYO**

**Narrative: 1**
We Were Entering The Dc Adiz To Return To Jyo. Having Picked Up Our Code, We Were 21 Nm W Of Aml, But Had Not Heard That Our 'Code Was Observed.' So We Decided To Let The Ctlr Know That We Had The Arpt In Sight Already (Which Was A Bit Unusual In Dc, But The Visibility Was Fairly Good). The Ctlr Advised Us Code Observed And That We Had Tfc To Our R Returning To Jyo As Well, But In Another Ctlr'S Sector. At This Point, Change To Advisory Was Approved, Which Is Again, Highly Unusual, But Great Actually. It Would Make The Events That Unfolded Much Clearer. We Switched To Advisory And Followed A 20 Mile Extended 45 For The Arpt, Looking For The Cessna 172 To Our R. We Would Never Actually See The Airplane Until It Turned Base For Rwy 17. The Cessna Called 10 Nm W Of The Field On Ctaf And We Rpted In Behind At 11. The Winds Were Out Of The S At 3, And Both Airplanes Were Established (As Rpted) On A Recommended 45 Entry To Midfield Downwind For Rwy 35. The Cessna Requested Intentions For Lndg And We Advised That We Would Follow The Lead Of The Cessna. The Cessna Indicated A Preference To Use Rwy 35 And We Acknowledged That Was Fine. At About 8 Miles Out, Another Acft, A Diamond, Announced They Were 6 Miles Nne Of The Field And Requested An Arpt Advisory. Despite The Previous Communications On The Ctaf, The Fbo Counter Person Advised The Diamond That They Were Recommending Rwy 17 An No Info On Other Acft Operations Was Provided. It Turns Out That The Fbo Has Been Advised By The Town And Possibly Tsa To Recommend Rwy 17 For Calm Wind Operations. This Is Not Published In The Afd. With High Frequency Of Training Operations To The W, Rwy 17 Is Problematic. The Diamond Announced Intentions To Join The Upwind For Rwy 17. We Then Announced A 4 Mile 45 To Join The Upwind, And The Cessna Advised That It Would Be Joining The Upwind For A Circuit To Downwind To Rwy 17. The Previous Plans Were Out The Window. What Happened Next Is Very Confusing. The Diamond Rpted Joining The Upwind, And Then So Did The Cessna. I Don'T Believe That Either Acft Knew The Position Of The Other And The Dusky Conditions Made Spotting Acft Very Difficult. The Diamond Plt Then Announced That He Was Quite Disturbed That Another Acft Was Joining The Upwind At The Same Time He Was And Announced That He Was, 'Getting Out Of There.' The Cessna Rpted A Few Seconds Later Turning Xwind For Rwy 17. At This Point We Were 1.5 Nm From The Field And I Announced Our Position And Intentions To Join The Upwind For Rwy 17. At This Point, I Saw The Diamond Heading Right For Us Xing The Threshold Heading Sw. I Banked The Airplane To The R For Two Reasons, First To Turn Away And Second To Increase Our Visible Profile. The Diamond Widened Out And Turned To The R Also To Follow Us On Downwind. The Rest Of The Pattern Operations Were Normal. Contributing Factors To Confused Pattern Operations And Nmac: 1) Late Call By The Diamond. This Is Typical In The Adiz As Ctlrs Don't Typically Release Airplanes To Ctaf Before Plts Rpt Field In Sight -- And Even Then Atc Will Hold Coms Until The Acft Is Closer To The Field. 2) Non-Recommended Pattern Entry By The Diamond -- A Straight In Lndg Would Have Been A Better Choice Than Crossing The Base Leg Of The Pattern To Join The Upwind. 3) Failure By The Diamond Plt To Give Way Initially To Acft To The Right Of Its Position Established For Lndg -- He Seemed To Rely More On Who Broadcasted First From His Perspective Than Visual Cues. 4)

Failure Of The Plts On The 45 To Assert Previous Intentions To Land On Rwy 35. 5) Low Shelf On The Class B Airspace Prevents Overflying The Arpt From The W. 6) The Dusky Grey Murk Didn'T Inhibit Gnd Visibility, But Made Sighting Acft Very Difficult. 7) Incomplete Arpt Advisory Did Not Account For Acft Already Maneuvering To Land. 8) Unpublished Recommendation On Arpt Pattern Operations. In Summary, This Rpt Is Being Filed Because There Is A Significant Safety Of Flt Issue Here.

**Synopsis**
A Pa28 Plt At Ctaf Jyo Describes A Tfc Conflict That He Experienced And Suggests Possible Mitigating Procs.

**Consultant Analysis**
Pilot reports conflicting advisory (runway in use) from UNICOM operator even though traffic was using another runway. Pilot considered this an incomplete airport advisory. Lesson learned: UNICOM station should monitor existing airport traffic and issues airport advisories accordingly upon pilot request.

*Abbreviations and acronyms used without definitions in TRB publications:*

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| A4A | Airlines for America |
| AAAE | American Association of Airport Executives |
| AASHO | American Association of State Highway Officials |
| AASHTO | American Association of State Highway and Transportation Officials |
| ACI–NA | Airports Council International–North America |
| ACRP | Airport Cooperative Research Program |
| ADA | Americans with Disabilities Act |
| APTA | American Public Transportation Association |
| ASCE | American Society of Civil Engineers |
| ASME | American Society of Mechanical Engineers |
| ASTM | American Society for Testing and Materials |
| ATA | American Trucking Associations |
| CTAA | Community Transportation Association of America |
| CTBSSP | Commercial Truck and Bus Safety Synthesis Program |
| DHS | Department of Homeland Security |
| DOE | Department of Energy |
| EPA | Environmental Protection Agency |
| FAA | Federal Aviation Administration |
| FAST | Fixing America's Surface Transportation Act (2015) |
| FHWA | Federal Highway Administration |
| FMCSA | Federal Motor Carrier Safety Administration |
| FRA | Federal Railroad Administration |
| FTA | Federal Transit Administration |
| HMCRP | Hazardous Materials Cooperative Research Program |
| IEEE | Institute of Electrical and Electronics Engineers |
| ISTEA | Intermodal Surface Transportation Efficiency Act of 1991 |
| ITE | Institute of Transportation Engineers |
| MAP-21 | Moving Ahead for Progress in the 21st Century Act (2012) |
| NASA | National Aeronautics and Space Administration |
| NASAO | National Association of State Aviation Officials |
| NCFRP | National Cooperative Freight Research Program |
| NCHRP | National Cooperative Highway Research Program |
| NHTSA | National Highway Traffic Safety Administration |
| NTSB | National Transportation Safety Board |
| PHMSA | Pipeline and Hazardous Materials Safety Administration |
| RITA | Research and Innovative Technology Administration |
| SAE | Society of Automotive Engineers |
| SAFETEA-LU | Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005) |
| TCRP | Transit Cooperative Research Program |
| TDC | Transit Development Corporation |
| TEA-21 | Transportation Equity Act for the 21st Century (1998) |
| TRB | Transportation Research Board |
| TSA | Transportation Security Administration |
| U.S.DOT | United States Department of Transportation |

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