

Executive Summary

Safety and Security Technology Assessment for Maryland Airports

On a national level, General Aviation airports are becoming the subject of closer scrutiny concerning their overall safety and security postures. On a state level, the Washington D.C. regional airports in Maryland and Virginia have become one of the nation's focal points for General Aviation's security concerns. This is evidenced by the nations internally bordered Air Defense Zone operated over both States' borders. The combined effects of international and domestic terrorism ranging from a troubled youth's suicide flight into a corporate office building, to the Oklahoma Federal Building bombing, to the suicide/murder flights of 911 have focused attention beyond the safety and security processes exclusively applied to major air carriers and facilities from which they operate.

Regardless of validity or probability, there are concerns for chemical or biological attacks from crop dusting platforms, explosive laden single engine or light twin aircraft crashing into densely populated facilities, the emergent threat of shoulder fired missiles bringing down aircraft operating around airfields and the increased attempts to debilitate aircrew by blinding them by using Class IIIb lasers. These example vulnerabilities are all based upon real attempts to conduct terrorism (both domestic and international), within our borders that include the involvement of General Aviation aircraft. Numerous vulnerability studies have been conducted and capture many potential forms of terrorist tradecraft. For many, if not most of these vulnerabilities, the potential responses suggested to counter and mitigate their successful initiation implies that deterrence would become a significantly greater burden to general aviation than seems appropriate. For example, Reagan National airport can not be used by general aviation and the Washington DC ADIZ restrictions are complex requiring a burdensome process to fly in and out of College Park airfield.

There are however, many technologies and process related activities that can yield a far greater security posture for Maryland airports without requiring complicated airfield operations plans, expensive installation and operations costs, interruption/delay of normal airfield services and institutional changes in airfield flight operations procedures on the deck or airborne.

The University Research Foundation proposes to search out, characterize and recommend technologies and activities that can increase the level of airfield safety and security without burdening operations. This assessment would include:

- A technical study of equipment and their associated operations.
- Acquisition, installation and maintenance and operational costs of potential technologies

- Training, proficiency and operational requirements when employing technologies.
- Effects on airfield users such as added user fees, operational delays, operational restrictions, invasions of privacy, passenger comfort and burdens.
- Cost to airport users of the enhanced security operations
- Potential gain specifications such as levels of intrusion detection, reduction of ground/air mishaps, increased situational awareness, reduction of ground administrative flight preparation times, increases in passenger convenience, decreases in flight insurance, seamless operations among private aircraft flights, charter flights, air taxi services, flight school operations, and airfield funding increases.

A few objective Criteria topics for evaluation of potential technologies are provided below. These and other items could be ranked or graded to provide a categorized grade for ease in evaluating specific airfield improvement alternatives.

- Complexity of Installation and setup
- Maintenance complexity
- Number of sub-sites
- Operational update frequency
- Level of proficiency requirements
- Mean time between failure
- Potential for false alarms, missed alarms, inaccurate alerts
- Transparency to User
- Transparency to Customer
- Level of inconvenience to user
- Level of deterrence
- Ability to integrate with legacy systems
- Degree of environmental effects
- Ease of contract maintenance

This URF assessment would provide MAA and airfield users with a valuable airfield consumer report tool that could be used to obtain federally subsidized improvements while allowing airfield operators to selectively target and respond to their own, self-generated, vulnerabilities. Rather than being force fed programs and technologies that provide thin veils of protection for general aviation, operators can proactively search for and implement efficient, non-invasive alternatives. The assessment would allow all MAA and airfield owners to develop their own common sense improvement plan that targeted the specific requirements and mitigated the specific vulnerabilities determined by those managing their facilities. This study will be valuable in answering future national requirements that must provide increased security at GA airports.