

Response to NPRM TSA-2008-0021
by
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I. Executive Summary.

Planehook finds no substantive basis for implementing this proposed rulemaking. The sheer number of requests for input and admissions of lack of industry data contained within the Notice of Public Rulemaking (NPRM) indicate that the analyses presented lack sufficient rigor to be used as a basis for public policy and rulemaking. Planehook, therefore, recommends that all proposed security programs contained within this rulemaking be abandoned in favor of programs developed in cooperation with the general aviation and security industries as recommended by the Government Accountability Office (GAO).¹

The TSA provides as justification for the proposed regulation changes a break-even analysis of consequences based upon 3 theoretical scenarios and one scenario that approximates the 9-11 attack against the World Trade Center. *There is, however, neither threat nor vulnerability analyses to justify the existence of risk to this sector of aviation.* Further, an expert in the recent Bush Administration is quoted as saying that the ability of Al-Qa'ida to reach us is nonexistent.² Therefore, lacking any credible, actionable threat information from the TSA concerning the use of general aviation aircraft, *there is no justification to increase physical security based upon this proposed rulemaking, only TSA supposition.*

Planehook finds that over 42% of airports designated by the U.S. Department of Transportation as reliever airports lack sufficient capability or infrastructure to support regular service for large aircraft. With such a large percentage of airports within this group lacking the physical ability to support large aircraft, we find the inclusion of these airports to be an unsupportable sweeping generality and an unjustifiable cost to their local governments and citizens.

We offer the following recommendations:

- Should the proposed Large Aircraft Security Program be implemented in any form, it should apply to only aircraft weighing in excess of 100,310 pounds or having 61 or more passenger seats
- Any phased implementation plan should allow a minimum of 8 months for each region as proposed with 12 months recommended
- The TSA should not limit the number of service providers for any proposed business activity
- The TSA should not assign auditors prior to any implementation process as this would indicate contractual favoritism and give rise to legal review based upon Federal Acquisition Regulations

¹ U.S. Government Accountability Office. General Aviation Security Increased Federal Oversight Is Needed, but Continued Partnership with the Private Sector Is Critical to Long-Term Success. Report GAO-05-144, GPO: Washington, 2004.

² Lt. Gen. Dell Dailey, USA (ret) quoted by Elaine Grossman (4:1).

- Airports directed to participate in the Airport Operator Security Program should be selected upon their regular use by large aircraft, not upon designation as reliever airports
- TSA should fund any and all training required by enactment of this proposed rule, to include all travel, lodging and per diem expenses of the mandated participants

II. Large Aircraft Security Program Comments.

1. General Comments. Planehook finds no threat data within this NPRM that justifies including aircraft with maximum takeoff weights in excess of 12,500 pounds. As a speaker at the Houston public hearing attested, there is no threat intelligence that offers substantive evidence of an existing risk of the misuse of general aviation aircraft by a terrorist organization.³ While there is historical evidence of use of large airliner aircraft in the form of the 4 aircraft hijacked on September 11, 2001, there is no evidence of such a use of aircraft as postulated in the 4 break-even consequence analysis scenarios— aircraft with maximum takeoff weights ranging from 12,501 pounds to 65,000 pounds. Further, there is no evidence presented which demonstrates the effectiveness of existing TSA security programs used for aircraft of this weight class.

2. Analysis of Break-Even Consequence Scenarios. Planehook examined the basis of the 4 consequence scenarios and offers the following comments.

A. Damage Capacity Analysis of Aircraft. Based upon the National Institute of Standards and Technology reports concerning the 9-11 attacks on the World Trade Center (WTC), the estimated impact velocity for American Airlines Flight 11 on Tower 1 (North Tower) ranged from 413 to 500 miles per hour.⁴ Further, according to the studies and computer modeling of the WTC attacks by Professors Hoffman, Popescu, and Sozen of Purdue University, the weakening of both towers from the impacts was caused by the impact of the remaining fuel on-board and the combustion of building materials that were initiated by the burning aircraft fuel⁵: aircraft fuel itself does not produce sufficient temperatures to weaken steel to the point of structural failure.⁶ The greatest damage caused by the aircraft to the buildings came from transfer of kinetic energy of the fuel to the building structure. Therefore, the magnitude of the loss of human life, mass casualties, and financial loss is largely dependent upon the splash energy of the fuel and the incendiary potential of interior furnishings of the building, not upon the combustion temperatures of the jet fuel itself. For these reasons, Planehook accomplished a comparison of the kinetic energies released by on-board fuel that is a more scientific

³ Comment by Robert P. Olislagers, AAE, spokesman for the American Association of Airport Executives, the State of Colorado, and Arapahoe County (Centennial) Airport during TSA public hearing held in Houston, Texas on 28 Jan 2009.

⁴ U.S. Dept of Commerce. National Institute of Standards and Technology. Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Visual Evidence, Damage Estimates, and Timeline Analysis. NIST NCSTAR 1-5A, Washington: GPO, 2005: 61.

⁵ Tally, Steve, "Purdue creates scientifically based animation of 9/11 attack." Purdue University News. 12 Jun 2007: 3.

⁶ Chertoff, Benjamin, Davin Coburn, et.al, "Debunking the 9/11 Myths: Special Report" Popular Mechanics, March 2005: 4.

measure of merit for damage potential based upon the TSA’s “aircraft used as a missile” attack scenarios (Scenarios 1-3).

According to modeling estimates performed by Professors Hoffman, Popescu, and Sozen, American Airlines Flight 11 struck the North Tower with approximately 10,000 gallons of fuel on board.⁷ The Boeing 767-200ER has a maximum takeoff weight of 395,000 pounds and a maximum fuel capacity of 23,980 gallons.⁸ Planehook used a fuel density of 6.7 pounds per gallon for jet fuel resulting in a fuel weight at impact of 67,000 pounds.

To examine the attack aircraft weight range cited in the NPRM, Planehook examined 3 aircraft that approximated the weight range of 12,501 to 65,000 pounds. The first aircraft is the Falcon 7X business jet which has a maximum takeoff weight of 69,000 pounds and carries up to 4,767 gallons of fuel. The second aircraft is the Challenger 850 business jet which has a maximum takeoff weight of 53,250 pounds and carries up to 2,732 gallons of fuel. The third jet is the Beech Premier which has a maximum takeoff weight of 12,500 pounds and carries up to 548 gallons of fuel.⁹

| Aircraft | Maximum Takeoff Weight (pounds) | Maximum Fuel (gallons/pounds) | Fuel Kinetic Energy at 453 mph (in Mega Joules) | Kinetic Energy Comparison (B767: aircraft) |
|----------------|---------------------------------|-------------------------------|---|--|
| B767 on WTC | 395,000 | 10,000* / 67,000 | 623 | 1 : 1 |
| Falcon 7X | 69,000 | 4,767 / 31,939 | 297 | 1 : 2.10 |
| Challenger 850 | 53,250 | 2,732 / 18,304 | 170 | 1 : 3.66 |
| Beech Premier | 12,500 | 548 / 3,672 | 34 | 1 : 18.3 |

Table 1. Comparison of the Kinetic Energies of Fuel on Board of Representative Aircraft

The fuels and energies in Table 1 consider the maximum fuel weights of the business jets. The use of these aircraft in an attack scenario proposed by the TSA would not be performed with maximum fuel based upon consumption for start, taxi, takeoff, and acceleration to the reference speed of 453 mph.¹⁰ Therefore, the actual fuel and kinetic energy would be less, resulting in lower potential consequences. It should be further noted that these are comparisons of individual aircraft. The actual attack of the WTC required the use of 2 aircraft. Therefore, in comparison to Scenario 3 in the NPRM, the comparisons of kinetic energy should be doubled. For example, the Beech Premier would contain less than one-thirty-sixth the energy of the WTC attack on 9-11.

**Note: This fuel quantity for Boeing 767-200ER comparison is limited to estimated fuel at impact on WTC, representing only 41% of the maximum fuel capacity of this aircraft.*

⁷ Talley, 3.

⁸ Boeing: Commercial Airplanes, Technical Characteristics—Boeing 767-200ER, accessed 6 Feb 2009, http://www.boeing.com/commercial/767family/pf/pf_200prod.html.

⁹ Takeoff weight and fuel capacities for the Falcon 7X, Challenger 850 and Beech Premier are sourced from Business & General Aviation Aircraft Charts of Aviation Week & Space Technology, 26 Jan 2009, 86-93.

¹⁰ Two observations of American Airlines Flight 11 in NIST NCSTAR 1-5A provide speed of impact estimations of 466 +/- 34 mph and 443 +/- 30 mph. Planehook used the average speed of the overlapping values, 432 to 473 mph, and derived 453 mph used in this analysis (9:61).

B. Casualty Analysis of Attacks. To compare the casualty values provided in the break-even consequence analysis, Planehook used the Electronic Mass Casualties Planning Scenarios (EMCAPS) software tool created by Johns Hopkins University. This tool allows plausible scenarios to be reasonably modeled in order to help casualty response planners assess preparedness and response capabilities needs. EMCAPS is not intended to precisely model the physical behavior of WMD threats.¹¹

The model scenario used as a basis for comparison is the improvised explosive device (IED) truck bomb scenarios based upon similar consequence characteristics (see Attachment A). While the types of casualties may differ somewhat between the use of a general aviation aircraft as a missile-like weapon and the use of a ground vehicle to transport to achieve a mass-casualty effect, the EMCAPS tool provides a useful method to compare the values for death and injuries provided in the NPRM. The IED-Truck Bomb Scenario using an explosive of 500 pounds of Ammonium Nitrate-Fuel Oil (ANFO) against a sparsely populated area (1 person for each 625 square feet) most closely approximates the TSA estimated consequence for Scenario 1.

| Source | Vehicle | Population Density | Dead | Trauma (Severe) Injuries | Urgent Care (moderate) Injuries | Death Values (in millions) | Trauma Values (in millions) | Urgent Care Values (in millions) | Total Value (in millions) |
|------------|---------------|-------------------------------------|------|--------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------------|---------------------------|
| EMCAPS | VB-IED | 1 : 625 ft ² | 13 | 23 | 118 | \$75.4 | \$25.3 | \$10.6 | \$111.3 |
| Scenario 1 | Aircraft Only | Unpopulated/ lightly populated area | 3 | -- | 10 | \$17.4 | \$0.9 | 0 | \$18.3 |

Table 2. Comparison of EMCAPS for VBIED with 500 lbs ANFO to General Aviation Aircraft in Unpopulated Area.

The attack comparison in Table 2 shows the Vehicle-Borne IED (VB-IED) causes over 4 times the deaths, and a far greater number of non-lethal injuries than the aircraft. Planehook made use of the same incident cost values applied by the TSA in Scenarios 1 – 3: Death is \$5.8 million; severe injury is \$1.1 million; and moderate injury is \$89,900. As the EMCAPS does not provide the value for the ground vehicle used in their attack scenarios, we have removed the value of the aircraft (estimated at \$9.3 million in the TSA calculus). This is a valid approach as the intent behind the NPRM is the improved security of the general public from terrorist attack; therefore, the consequential value of the loss of the aircraft to the public at large is minimal. The total value column shows that the aircraft provides a consequence that is an order of magnitude less than the bomb-laden truck.

¹¹ Electronic Mass Casualty Assessment & Planning Scenarios (EMCAPS). Vers 1.0. Sep 2006. <http://www.hopkins-cepar.org/EMCAPS/EMCAPS.html>

| Source | Vehicle | Population Density | Dead | Trauma (Severe) Injuries | Urgent Care (moderate) Injuries | Death Values (in millions) | Trauma Values (in millions) | Urgent Care Values (in millions) | Total Value (in millions) |
|------------|---------------|------------------------|------|--------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------------|---------------------------|
| EMCAPS | VB-IED | 1 : 50 ft ² | 173 | 303 | 1,491 | \$1,003 | \$333.3 | \$134.0 | \$1,470.3 |
| Scenario 2 | Aircraft Only | Populated area | 250 | 250 | 0 | \$1,450 | \$275.0 | 0 | \$1,725.0 |

Table 3. Comparison of EMCAPS for VBIED with 500 lbs ANFO to General Aviation Aircraft in Populated Area.

The attack comparison in Table 3 shows that without changing the cargo in the aircraft or size of the VB-IED, the aircraft causes over 50% more deaths, and 20% more severe injuries in a populated area. Comparing the total values between the VB-IED and the aircraft, the consequence value of these attacks are the same order of magnitude.

| Source | Vehicle | Population Density | Dead | Trauma (Severe) Injuries | Urgent Care (moderate) Injuries | Death Values (in millions) | Trauma Values (in millions) | Urgent Care Values (in millions) | Total Value (in millions) |
|------------|---------------|------------------------|-------|--------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------------|---------------------------|
| EMCAPS | VB-IED | 1 : 25 ft ² | 347 | 608 | 2,983 | \$2,013 | \$668.9 | \$268.2 | \$2,950 |
| Scenario 3 | Aircraft Only | Densely Populated area | 3,000 | 9,000 | 0 | \$17,400 | \$9,900 | 0 | \$27,300 |

Table 4. Comparison of EMCAPS for VBIED with 500 lbs ANFO to General Aviation Aircraft in Densely Populated Area.

The attack consequence comparison in Table 4 shows that without changing the cargo in the aircraft or size of the VB-IED, the aircraft causes over 8 times as many deaths, and more than 14 times as many severe injuries. Comparing the total values between the VB-IED and the aircraft, the consequences of the aircraft attack are an order of magnitude larger than the VB-IED.

| Source | Vehicle | Population Density | Dead | Trauma (Severe) Injuries | Urgent Care (moderate) Injuries | Death Values (in millions) | Trauma Values (in millions) | Urgent Care Values (in millions) | Total Value (in millions) |
|------------|---------------|------------------------|-------|--------------------------|---------------------------------|----------------------------|-----------------------------|----------------------------------|---------------------------|
| EMCAPS | VB-IED | 1 : 25 ft ² | 1,614 | 2,829 | 13,850 | \$9,361 | \$3,112 | \$1,245 | \$13,718 |
| Scenario 3 | Aircraft Only | Densely Populated area | 3,000 | 9,000 | 0 | \$17,400 | \$9,900 | 0 | \$27,300 |

Table 5. Comparison of EMCAPS for VBIED with **5,000** lbs ANFO to General Aviation Aircraft in Densely Populated Area.

As shown in Table 5, even when we simulate loading the truck with 10 times the amount of explosives used in the previous comparisons (approximately 125% of the amount used in the Oklahoma City Attack of 1995), the VB-IED consequential value is still only half of the estimated value in the TSA scenario.

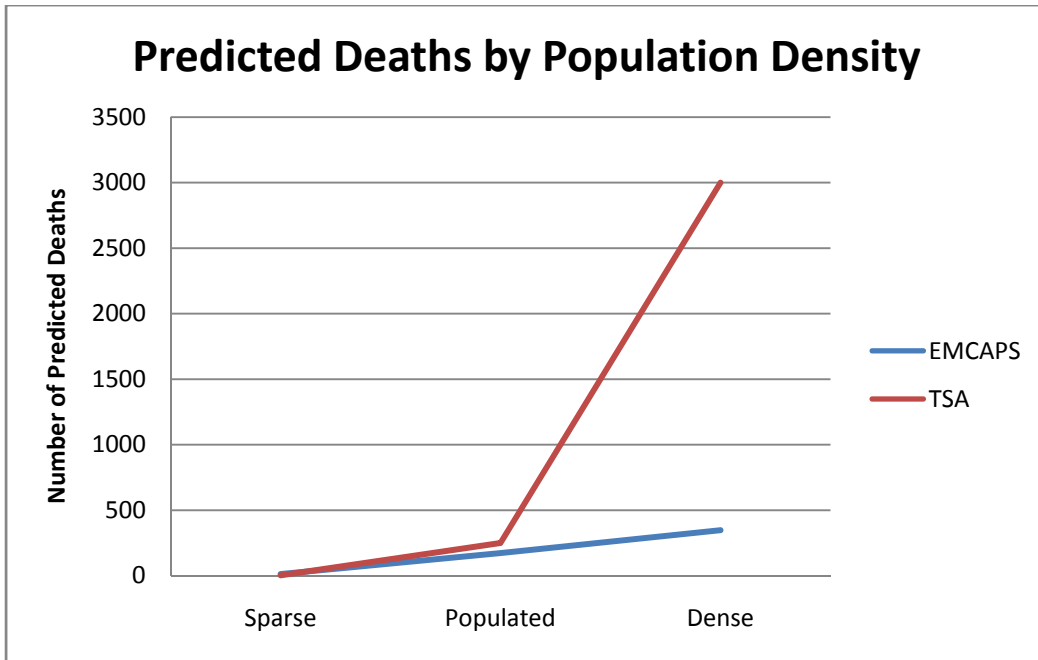


Figure 1. Comparison of EMCAPS and TSA results for predicted deaths by population density.

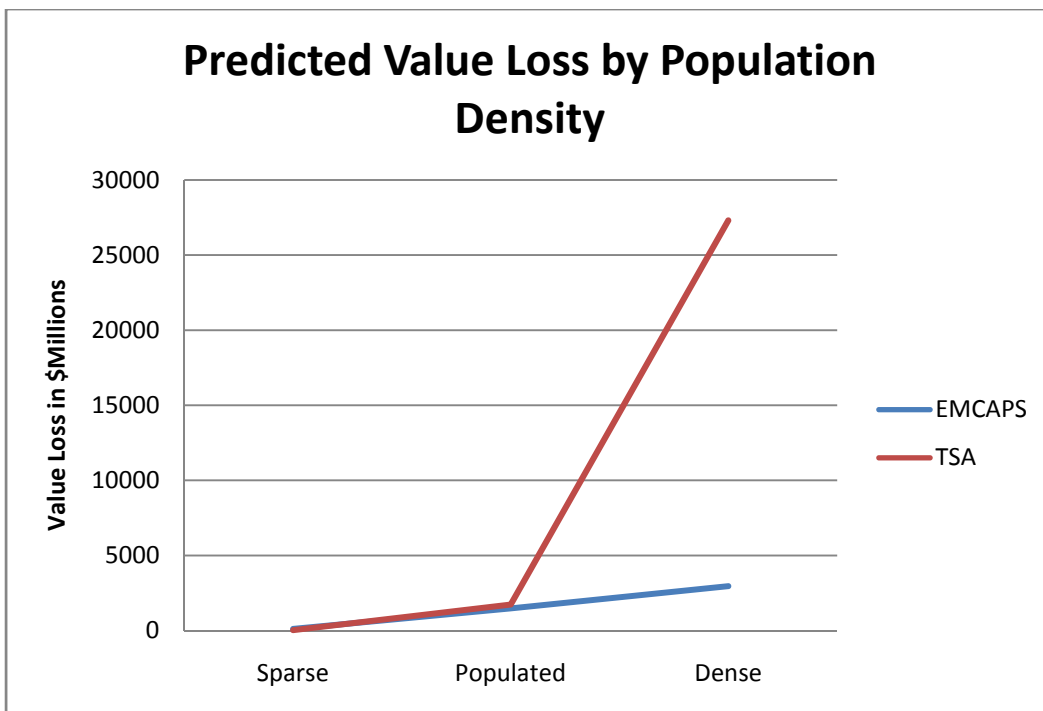


Figure 2. Comparison of EMCAPS and TSA results for predicted value loss by population density.

As can be seen in Figures 1 and 2, the linearity of the models is close until entering dense population region. Based upon the linear output of the EMCAPS model, Planehook has greater faith in its goodness than that of the TSA values which vary by orders of magnitude. ***It is within this densely populated, non-linear region that the TSA bases its financial case for the value of the proposed security programs.*** We find this approach to justify mandatory public and private investment in the proposed security programs to be flawed. Planehook recommends that the values derived from the scenario models given in the NPRM not be used as a basis for the formation and justification of public policy and rulemaking without greater proof of the rigor behind the TSA's consequence model. A scenario model that takes into account the consequence of a single aircraft vice the two-aircraft 9-11 attack of the WTC would be a step in the right direction.

III. Airport Operator Security Program Comments.

1. General Comments. A large number of reliever airports possess characteristics that make them unsuitable for regular use by large aircraft. For the purpose of analysis Planehook determined these to be runways 5,000 feet long or less, runways and taxiways not stressed for aircraft weighing in excess of 12,500 pounds, and lack of public availability of suitable fuel. Of the 273 airports designated as reliever airports over 42% possess at least one negative characteristic, over 23% possess at least two negative characteristics and over 7% possess all three negative characteristics. Therefore, using the designation of "reliever" to require a general group of airports to adopt the proposed Airport Operator Security Program is unsupported. For greater detail see Attachment B.

Rather than stating that all U.S. Department of Transportation designated reliever airports must adopt the Airport Operator Security Program (AOSP) and establish a 49 CFR Part 1542 "partial" program, we recommend the TSA adopt the following airport characteristics to identify those airports whose adoption of the AOSP will serve to increase security for large aircraft:

- Runway(s) longer than 5,000 feet
- Runway(s) and taxiways rated to support single-wheel weights in excess of 12,500 pounds
- Jet A fuel (or similar fuel suitable for turbine engines) publicly available

2. Responses to TSA Assumptions. We wish to respond to noted assumptions made by the TSA in the NPRM.

A. Reliever airports "...perform the function of relieving congestion at a commercial service airport by diverting G.A. from the commercial services airport to the reliever airport and provide more G.A. access to the overall community." While this statement is generally true, reliever airports relieve the congestion of *small* general aviation aircraft so that large aircraft can have more uncongested access to the commercial service airports. Therefore, reliever airports are not necessarily designed to absorb large aircraft. An analysis of 215 of the 272 reliever airports—not certified by the Federal Aviation Administration as Part 139 airports—provides the following data:

- 109 airports have runways with lengths 5,000 feet or less
- 55 airports have runways with single-wheel weight bearing ratings of 12,500 pounds or less
- 36 airports do not dispense fuel that is compatible with the turbine engines commonly used by large aircraft (e.g., Jet A, Jet A+, Jet B)

These three characteristics—unfavorable to large aircraft operations—were further examined to see how many of the 215 airports possessed one or more of these characteristics (percentages are based upon the entire population of 273 reliever airports):

- 116 reliever airports in this group have at least one unfavorable characteristic (42.5%)
- 65 reliever airports in this group have two or more unfavorable characteristics (23.8%)
- 20 reliever airports in this group possess all three unfavorable characteristics (7.3%)

Based upon these results we conclude that the sweeping generality posited by the TSA that reliever airports as a group service large aircraft is unsupported as evidenced by the 42% of the reliever airport population that cannot. For these reasons we strongly recommend TSA adopt specific airport characteristics when identifying airports suitable for large aircraft operations, rather than grouping all airports designated as “reliever” airports.

B. “TSA believes that the requirements of the partial program for airport operators would not be burdensome for reliever airports...to adopt and carry out.” We find the direct financial burden from the proposed Aircraft Operator Security Program (AOSP) to be overly burdensome based upon the proposed regulations and the imposition of an unfunded federal mandate. The presumption that the normal workday of an airport manager is sufficiently unburdened as to be able to absorb the duties of an Airport Security Coordinator (ASC) is fallacious. Further, the presumption made in the unit cost section of the NPRM that a single individual...an airport manager or any other member of an airport staff...will remain without vacation or serious illness over a year’s time so as to faithfully fulfill the 24/7 duties of the ASC in accordance with 49 CFR Part 1542 (b)(2) and (4) is unrealistic as well.

C. “TSA also believes that the requirement for these airports to implement security programs will not place a significant burden on local law enforcement agencies, because TSA expects that there will be few incidents requiring law enforcement response at these airports.” Local law enforcement manpower is a carefully scrutinized employment cost borne by local governments and their citizens. The presumption by a federal agency that a local government agency has sufficient overhead manpower as to be able to absorb an additional law enforcement duty without impacting other duties for which it is already responsible to the community is unjustified. It is our observation that communities, both large and small, take considerable pride in their first responders and invest in their ability to successfully accomplish their duties safely and professionally. Any federal burden to local government manpower that is of a long-term nature should receive direct funding for manpower, training, and all travel expenses pursuant to that training.

Furthermore, local law enforcement officers conduct their duties and training beyond the oversight of airport management. Unlike commercial service airports, reliever and general aviation airports do not

have a law enforcement organization employed by the airport. Therefore, the requirement to ensure (and be legally responsible for) the availability and commitment to airport security as would be required under 49 CFR Part 1542.215(b) is unrealistic.

IV. Threat Assessment.

The U.S. National Intelligence Council released its intelligence estimate concerning the terrorist threat against the United States. *The Terrorist Threat to the U.S. Homeland* (Unclassified), dated July 2007, made the following judgments:

- “Al-Qa’ida is and will remain the most serious terrorist threat to the Homeland....”
- “...the United States currently is in a heightened threat environment.”
- “...other, non-Muslim terrorist groups—often referred to as ‘single-issue’ groups by the FBI—probably will conduct attacks over the next three years given their violent histories, but we assess this violence is likely to be on a small scale.”

The position concerning Al-Qa’ida’s ability to organize and conduct effective attacks against the United States is not shared by ranking members of the Bush Administration. Dell Dailey, the U.S. Department of State Coordinator for Counterterrorism, is quoted as recently as January 9, 2009:

- “They are kind of bottled up. I submit to you that bin Laden can’t get an operational effort off the ground without it being detected ahead of time and being thwarted.”¹²

Mr. Dailey, a recently retired U.S. Army Lieutenant General from U.S. Special Operations Command and recognized expert on counterterrorism, is further quoted as saying:

- “Their ability to reach us is nonexistent.”¹³

Therefore, the most current capability of Al-Qa’ida to conduct attacks against the U.S. Homeland is at least in dispute. *Therefore, lacking any credible, actionable threat information from the TSA concerning the use of general aviation aircraft, there is no justification for the public and private sectors to invest their financial capital for increasing physical security for the proposed unfunded mandate against an undefined threat.*

V. Vulnerability Assessment.

The TSA offers no analysis of the vulnerability of general aviation aircraft weighing in excess of 12,500 pound to any particular tactic used by any particular threat. No assessment is offered as to the effectiveness of TSA’s currently existing security programs such as the Twelve-Five Standard Security Program. Planehook finds the lack of analysis of merit for existing programs used by the General Aviation Community and supported by TSA, such as the Airport Watch program, indicates a lack of

¹² Grossman.

¹³ Ibid.

commitment to understanding the aviation segment which TSA seeks to regulate. For these reasons Planehook finds the lack of evidence of rigor and disciplined systems engineering approach to be a great source of concern. We find no reasonable basis for the implementation of this proposed rule.

VI. Responses to Specific TSA Requests for Inputs. Please note that all pages cited in this section are sourced and, when necessary, paraphrased from the *Federal Register*, dated October 30, 2008.

1. Comment on the weight threshold of aircraft covered by this proposal (pg 64792)

The aircraft maximum takeoff weight threshold for this proposal should be 100,310 pounds (45,500 kg). The terrorists of 9-11 made use of aircraft that fit this weight category. The TSA presents no direct threat information in this NPRM to suggest that a human threat is making plans to use aircraft as small as 12,501 pounds for terrorist attacks. The NPRM provides neither threat nor vulnerability information, but only a break-even consequence analysis. This analysis is insufficient to justify the private and local government expenditures of nearly \$197 million, of which the TSA would pay for only 10.2% for its own direct operations. Therefore, should this NPRM be enacted, it should apply to the size of aircraft for which the threat has shown a clear pattern of use.

2. Comment on the phased approach and on determining which phase would be applicable to each large aircraft operator based on the location of the aircraft or headquarters (page 64795).

The likelihood of backlogged security programs for approval and their implementation based upon the excessively aggressive timetable presented in the NPRM is cause for concern. Based upon 49 CFR Part 1542.105 (a), airport operators must submit their security programs for approval at least 90 days before an aircraft operator is expected to begin operations under a Part 1544 or 1546 security program. Each of the 6 phases, 5 for geographic regions and 1 for existing security program holders, is only 4 months (120 days) long. Based upon the sheer numbers of aircraft and airport operators presented in this NPRM, we recommend that each phase be no less than 8 months with one year being preferable.

3. Comment on whether the STA should be transferable so that the flight crew member would need to undergo only one STA every 5 years, regardless of the number of employers the flight crew members may have within the 5-year period (page 64796).

Any STA is based upon the individual. Should this element of the NPRM be enacted as proposed, STAs should be transferable between places of employment and employers.

4. Comment and recommended methods for positively identifying pilots and effectively linking them to the aircraft they are operating (page 64796).

Government credentials with photographs are sufficient for identifying pilots. Implementing a positive identification program designed to link pilots to their aircraft will not be an effective use of time or money.

5. Comment on the role that watch list service providers may continue to have if the responsibility for watch list matching shifts to the US government in the future. For example, would watch list service providers offer their services to consolidate passenger information from large aircraft operators and to transmit the passenger information to Secure Flight (page 64797)?

Watch list service providers would continue to have a strict liability for the personal information gathered and retained by their information systems in accordance with the provisions of the Computer Fraud and Abuse Act of 1984, the Electronic Communication Privacy Act of 1986, the Identity Theft Assumption and Deterrence Act of 1998, as well as other applicable acts of law. Unlawful release of personal information, intentional or unintentional, and pursuant to services sanctioned by the TSA would subject those providers to both consequences under both criminal and civil law.

6. TSA is considering whether to require all individuals to provide their gender and date of birth to assist in the watch list matching and resolution process (page 64798).

Those entities having possession of the personal information of other individuals or entities—including gender and date of birth information—must bear full responsibility and accept strict liability for its protection as provided under the provisions of the Computer Fraud and Abuse Act of 1984, the Electronic Communication Privacy Act of 1986, the Identity Theft Assumption and Deterrence Act of 1998, as well as other applicable acts of law. Any watch list matching service should not be afforded exclusions from this responsibility under federal shields such as the SAFETY Act as this information does not constitute a “technology,” but personal data.

7. Comment on whether it should establish a minimum time for submission of passenger information to the service providers, what that minimum time should be, and the reasons supporting the suggested minimum time (page 64798).

Response and resolution times of the watch list providers impact the availability of valuable aircraft parking space provided by the airport operator to aircraft operators. Response times should be as short as possible. Five minutes from time of submission to time of receipt of approval is reasonable based upon typical data transmission and computing capabilities.

8. Comment on whether full program aircraft operators should be permitted to conduct watch list matching for passengers on flights operated under their LASP using the system or process that they use for flights operated under their full security program, including TSA’s Secure Flight Program when it is available (page 34799).

Full program aircraft operators should be afforded the option of selecting whichever watch matching service makes the best economical sense, whether that is based upon time, money or another measure of merit.

9. Comment on whether the proposed record retention for the Secure Flight Program should be applied to large aircraft operators and watch list service providers to ensure that personally identifiable information is not retained longer than necessary (page 64799).

Any record of personal information should not be retained longer than that necessary to begin and complete a flight. We interpret this to mean the departure of an individual from an airport until they reach their destination airport, whether the intent of the flight is to be one-way or an eventual roundtrip.

10. TSA is considering requiring large aircraft operators and watch list service providers to retain passenger information for passengers who are cleared, for 3 years, to facilitate the audit that large aircraft operators would undergo every 2 years under proposed 49 CFR Part 1544.243 and compliance oversight (page 64799).

The risk of maintaining this personal information over a 3-year period does not appear to justify the gain. Entities—individuals or corporations—having possession of the personal information of other individuals or entities must bear full responsibility and accept strict liability for its protection as provided by the *Computer Fraud and Abuse Act of 1984*, the *Electronic Communication Privacy Act of 1986*, the *Identity Theft Assumption and Deterrence Act of 1998*, as well as other applicable acts of law. Further, if the status of a past passenger changes during the 3-year period, maintaining negative information concerning that individual who was once cleared would constitute a risk of violating Equal Employment Opportunity laws as the refusal of flight based upon the TSA's lists constitutes neither arrest nor conviction. An inability to fly based upon TSA direction, should that individual be employed by a company making use of their business aircraft, would be viewed as a disability subject to Section 503 of the *Rehabilitation Act of 1973*. Therefore, retention of this information constitutes a risk to the protection of human resources information that is beyond the scope of flight departments and flight operators.

11. Comment on whether the watch list matching service providers should serve as part of the long term solution to large aircraft watch list matching, such as by gathering the passenger information from the aircraft operators and submitting it to TSA for watch list matching, then receiving the results from TSA (page 64800).

If the intent of the TSA is to facilitate cost effective Watch List service, then the use of Watch List matching service providers makes long-term economical sense. If, however, the intent of TSA is to ensure the protection of Watch List data, then this activity should remain with the federal government.

12. Comment on whether maintaining the watch list matching service providers may reduce the costs associated with a transition to the Secure Flight Program (page 64800).

Costs could be reduced if market forces allow service providers to compete freely. But if the TSA limits the number of service providers, then costs will be driven by small group or monopolistic forces—likely without the benefit of economies of scale.

13. Comment on whether to include a system of assigning auditors in the final rule and on methods of doing so (page 64800).

The assignment of auditors before the proposed implementation process begins would be premature and give the appearance of contractual favoritism by a federal agency.

14. Comment on whether it is necessary to require full program aircraft operators that also operate flights under a LASP to contract with a third party auditor to conduct a biennial audit of their operations for compliance with their security program and TSA regulations (page 64800).

This requirement would be redundant and a needless overhead expense to the aircraft operator.

15. Comment on large aircraft operators that are not carrying persons or property for compensation or hire—should “weapons” be limited to guns and firearms (page 64800).

There should be no limitations concerning weapons—including guns and firearms. Some flights occur over rugged and inhospitable terrain. What the TSA perceives as a weapon is also survival equipment. Survival equipment that is not immediately available during an *in-extremis* departure from the aircraft is only camping gear and would not be accessible during an emergency evacuation. Therefore, the determination of what constitutes a weapon and what is necessary survival gear should be left to the determination of the Pilot-in-Command in accordance with 14 CFR Part 91.3(a).

16. Further, should there be a different requirement depending on whether the aircraft has a MTOW of 45,500 kg or less or more than 45,500 kg (page 64801)?

The entirety of the LASP should be applied to aircraft with MTOW of greater than 45,500 kg.

17. Comment on whether there is a more cost effective means of meeting the same or substantially similar security goals for the aircraft operator security coordinator requirement (page 64801).

To create a more transparent Return-on-Investment for the individual and business investments in security that it seeks, the federal government should offer aviation insurance products that reward participation in these proposals. This is a reasonable course of action as the federal government is now a business owner and an underwriter-in-fact within the U.S. commercial insurance industry by having bailed out a major insurance company using taxpayer funds. Therefore, the United States Government is now in the position to steer the insurance industry in a direction that offers competitive insurance products to the very aviation population that it seeks to control through security regulations.

18. Comment on the use of a single individual for multiple security coordinator roles (page 64801).

The economic use of manpower, especially in light of the fact that this NPRM is proposed as an unfunded federal mandate, is essential to gaining industry acceptance. Therefore, the TSA should allow airport and aircraft operators to determine the best way to make use of security-trained personnel.

19. Comment on whether other types of airports should also be required to adopt a security program, such as the partial program (page 64804).

Selected airports should be based upon specific capabilities needed for regular operations by large aircraft, not the designation of “reliever.”

20. How should TSA determine whether an airport “regularly serves” a large aircraft with MTOW of over 45,500 kg or a passenger seat configuration of 61 seats or more (page 64804)?

An airport should have a minimum annual average of 1 flight (1 landing and 1 takeoff) per day by large aircraft with MTOW over 45,500 kg or passenger seat configuration of 61 seats or more for it to be considered as “regularly serving” large aircraft.

21. Comment on whether the content requirements of the partial program and the supporting program should be amended (page 64804).

As an unfunded mandate the proposed “partial” airport security program is overly burdensome. First, reliever and general aviation airport operators are not in the business of law enforcement oversight. Therefore, the requirements under 49 CFR Part 1542.215(b) and 217 are beyond the scope of non-commercial service airport operations. Should the AOSP be implemented in any form, it should be the responsibility of the TSA to coordinate and conduct approval activities directly with local law enforcement agencies. Further, the TSA should fund all local law enforcement training required by this proposal.

Second, based upon the sheer numbers of aircraft and airport operators proposed to be required to implement Airport Security Coordinator and Aircraft Operator Security Coordinator programs, the TSA should provide at no cost the initial and annual training at one or more locations within each Federal Security Director region. This training should be offered on different dates during each year in order to make it possible for airport and aircraft operators to meet the 24-7 responsibilities of their coordinators in accordance with 49 CFR Part 1542.3(b)(2) and 49 CFR Part 1544.215(a).

22. Comment on whether auditors with these important duties should be subject to a qualification such as US citizen, US national or lawful permanent resident of the US (page 64806).

Qualifications to perform federally-mandated duties should be based upon the Equal Employment Opportunity laws, as enforced by the U.S. Department of Labor.

23. Comment on auditor qualifications as well as other requirements that TSA should consider for auditors of LASP (page 64808).

An auditor of aviation security programs should be first and foremost an expert in general aviation operations and secondly a credible expert in security. Individuals conducting audits should have as a minimum either a Commercial Pilots License granted by the Federal Aviation Administration and a minimum of 5 years of federal, state or local law enforcement experience; or they should have an Airline Transport Pilot License granted by the Federal Aviation Administration and a relevant security certification by an accepted national or international security organization or association. Further, the individual should also possess a certification as either an Airport Security Coordinator or an Aircraft Operator Security Coordinator from an accredited source.

24. Comment on whether it should require certain individuals with the aircraft owner company should undergo a Security Threat Assessment (page 64810).

While we disagree that general aviation operations require any Security Threat Assessment, should the NPRM be enacted without change, individuals authorized to act as Pilot-in-Command of an aircraft under the LASP should be the only individuals required to undergo a Security Threat Assessment.

25. Comment on whether we should provide additional features of subpart K (Fractionals) in these regulations such as the requirement that the program manager brief the fractional owner (page 64811).

The person responsible for the safe conduct of the flight is the Pilot-in-Command. We disagree that general aviation operations require the security precautions proposed by the LASP. In this instance we further recommend that references to security requirements that go beyond the immediate operations responsibilities of the PIC be struck from this proposal.

26. Comment on limiting the number of entities that would be approved watch list service providers, including what criteria would be used to determine which applicants would be approved and how many watch list service providers should be approved (page 64813).

It is not the place of a federal agency to limit the number of business activities that exist, or would exist, to support a federal program. Such activities would constitute monopolistic intent on the part of the federal government and would compromise the support of free market enterprise under democracy. Intentionally placing such a restriction on free business enterprise would subject the TSA and this NPRM to legal review under the Federal Acquisition Regulations with which the TSA must now be fully compliant.

27. Comment on whether to require covered personnel (as watch list service provider) to be US citizens, US nationals or lawful permanent residents of the US (page 64813).

Qualifications to perform federally-mandated duties should be based upon the Equal Employment Opportunity laws, as enforced by the U.S. Department of Labor.

28. Comment on which standards and controls in the NIST Special Publication 800-53 should apply to watch list service providers systems (page 64814).

While the standards and controls given in NIST SP 800-53 appear satisfactory as a minimum standard for information and information technologies protection, comments on these processes and procedures should be between the TSA's proposed watch list service providers and the TSA. This issue appears to be an internal information interface issue between the TSA and a watch list service provider.

29. Comment to evaluate whether the proposed information requirement is necessary for the proper performance of the functions of the agency including whether the information will have practical utility (page 64821).

As the TSA seeks to grow its span of control through the employment of both third-party auditors and watch-list services providers, it is unlikely that the administration will have sufficient capacity to adequately evaluate the information for it to be considered of practical utility.

30. Comments to enhance the quality, utility and clarity of the information to be collected (page 64821).

The quality of the proposed collected information would be a function of the quality of the collectors, not so much the information itself. The clarity of the information depends strictly upon how that information would be input and categorized. However, the utility of the information is questionable as that depends upon the ability to interpret and take action upon the information. As the TSA must increase its span of control through the use of the proposed third-party auditors and watch-list service providers to make this work, it would appear that there is insufficient manpower to justify the utility of the collected information—regardless of enhancements.

31. Comments to minimize the burden of the collection of information on those who are to respond, including using appropriate automated, electronic, mechanical or other technological collection techniques or other forms of information technology (page 64821).

Should the LASP be implemented as proposed, the means to minimize the burden of collection will not rest upon the collection means, but rather the number of individuals from whom information is sought. The Pilot-in-Command is the ultimate authority as to the conduct of any given flight. Therefore, the reasonable reduction in burden would result from narrowing the focus of the information collection effort to the PIC alone.

32. Comments on whether the proposed rule would have a significant economic impact on a substantial number of newly regulated aircraft operators (page 64835).

The ability to determine the economic impact, even to a rough order of magnitude, is hindered by the current non-availability of the LASP template that is mentioned in the NPRM and used as a basis for manpower impacts and Aircraft Operator Security Coordinator tasks. Requests to TSA for a copy of the proposed template resulted in being informed that the template would not be available until the Final Rule is published. Lacking this document, we can neither validate nor dispute the manpower and

economic data presented in any meaningful manner. This lack of information defeats the purpose behind the opportunity for public review.

33. Comments on whether a self assessment tool should be mandatory but has not set it forth as a requirement under the proposed rule (page 64835).

If a self assessment tool were mandatory and accomplished by a flight department or airport, would the TSA believe the results or would they require that a disinterested third party perform the assessment as well? Based upon the language of this proposal, this effort would likely be re-accomplished by someone that the TSA believed to be credible, making the original assessment a waste of manpower.

34. Comments on whether it should adopt a self paced training program for affected airports that would reduce the impact of this requirement (page 64836).

Should the proposed AOSP be implemented, an online, self-paced training program that meets the initial and annual requirements for Airport Security Coordinators should be provided at no cost by the TSA to participating airports.

35. Comment on preliminary conclusion that airport rules would not impose a significant economic impact (page 64837).

The ability to determine the economic impact, even to a rough order of magnitude, is hindered by the current non-availability of the AOSP template that is mentioned in the NPRM and used as a basis for manpower impacts and Airport Security Coordinator tasks. Requests to TSA for a copy of the proposed template resulted in being informed that the template would not be available until the Final Rule is published. Lacking this document, we can neither validate nor dispute the manpower and economic data presented in any meaningful manner. This lack of information defeats the purpose behind the opportunity for public review.

36. Comment on whether the proposed rule would have a significant economic impact on the 68-74 publically owned small airport operators that TSA identified in its research (page 64837).

The ability to determine the economic impact, even to a rough order of magnitude, is hindered by the current non-availability of the AOSP template that is mentioned in the NPRM and used as a basis for manpower impacts and Airport Security Coordinator tasks. Requests to TSA for a copy of the proposed template resulted in being informed that the template would not be available until the Final Rule is published. Lacking this document, we can neither validate nor dispute the manpower and economic data presented in any meaningful manner. This lack of information defeats the purpose behind the opportunity for public review.

37. Comments on use of TSA inspectors to conduct audits (page 64837).

The audit function is one of quality assurance. The TSA appears to want to obtain operations approval authority of large aircraft within the General Aviation Community and that of its regularly supporting

airports while remaining detached from the problems and issues faced by our Community. It is this lack of first-hand experience and empathy for those who are the day-to-day practitioners of flying and airport operations that would create the highly probable distrust which would exist between the federal security agency and the users and providers of airport services. Therefore, it should be a TSA inspector that has first-hand working knowledge of the flight department and airport operations in their area who should be tasked to conduct audits. This use of TSA inspectors would reduce the direct economic impact on the proposed general aviation and airport population.

38. Comment on TSA's no determination of significant economic impact on small entities (page 64839)

The ability to determine the economic impact on small entities, even to a rough order of magnitude, is hindered by the current non-availability of the LASP and AOSP templates that are mentioned in the NPRM and used as a basis for manpower impacts and task for Airport Security Coordinators and Aircraft Operator Security Coordinators. Requests to TSA for copies of these proposed templates resulted in being informed that the templates would not be available until the Final Rule is published. Lacking these documents, we can neither validate nor dispute the manpower and economic data presented in any meaningful manner. This lack of information defeats the purpose behind the opportunity for public review.

VII. Sources.

1. Boeing: Commercial Airplanes, Technical Characteristics—Boeing 767-200ER, accessed 6 Feb 2009, http://www.boeing.com/commercial/767family/pf/pf_200prod.html
2. Chertoff, Benjamin, Davin Coburn, Michael Connery, David Enders, Kevin Haynes, Kristin Roth, Tracy Saelinger, Erik Sofge and the editors of POPULAR MECHANICS, “Debunking the 9/11 Myths: Special Report” Popular Mechanics, March 2005. http://www.popularmechanics.com/technology/military_law/1227842.html
3. Electronic Mass Casualty Assessment & Planning Scenarios (EMCAPS). Vers 1.0. Sep 2006. <http://www.hopkins-cepar.org/EMCAPS/EMCAPS.html>
4. GCR & Associates, Inc. Airport IG™ 5010 Airport Master Records and Reports. Accessed between 02 and 12 December 2009. <http://www.gcr1.com/5010Web/>
5. Grossman, Elaine M., “Senior U.S. Counterterrorism Officials Differ Over Al-Qaeda Threat.” Global Security Newswire, January 9, 2009. http://gsn.nti.org/gsn/nw_20090109_3316.php
6. N.a, “Business & General Aviation Aircraft.” Aviation Week & Space Technology, 26 Jan 2009, 86-93.
7. National Intelligence Council. The Terrorist Threat to the US Homeland. National Intelligence Estimate. Washington: GPO, 2007
8. Olislagers, Robert P., Address. Public Comment on NPRM TSA-2008-0021, Houston. 28 Jan 2009.
9. Tally, Steve, “Purdue creates scientifically based animation of 9/11 attack.” Purdue University News. 12 Jun 2007. <http://news.uns.purdue.edu/x/2007z/070612HoffmannWTC.html>
10. U.S. Dept of Commerce. National Institute of Standards and Technology. Federal Building and Fire Safety Investigation of the World Trade Center Disaster: Visual Evidence, Damage Estimates, and Timeline Analysis. NIST NCSTAR 1-5A, Washington: GPO, 2005. <http://wtc.nist.gov/oct05NCSTAR1-1index.htm>
11. U.S. Dept of Commerce. National Oceanic and Atmospheric Administration. Climate of 2006—in Historical Perspective. Washington: GPO, 2007. <http://www.ncdc.noaa.gov/oa/climate/research/2006/ann/ann06.html>
12. U.S. Dept of Commerce. National Oceanic and Atmospheric Administration. National (Contiguous U.S.) Temperature June-August, 1895—2006. Washington: GPO, 2007. http://www.ncdc.noaa.gov/img/climate/research/2006/ann/Reg110Dv00Elem02_06082006_pg.gif
13. U.S. Government Accountability Office. General Aviation Security Increased Federal Oversight Is Needed, but Continued Partnership with the Private Sector is Critical to Long-Term Success, Report GAO-05-144, Washington: GPO, 2004.

14. U.S. Transportation Security Administration. Large Aircraft Security Program, Other Aircraft Operator Security Program, and Airport Operator Security Program, Docket No. TSA-2008-0021, *Federal Register*, Washington: GPO, 2008.

Attachment A

Electronic Mass Casualty Assessment & Planning Scenarios (EMCAPS) Scenario Outputs

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IED - Truck Bomb Scenario

Selected Inputs:

| | |
|--------------------|----------------------------------|
| Bomb Size | 500 lbs ANFO |
| Population Density | 1 person per 625 ft ² |

Casualties:

| | |
|---|-----|
| Dead | 13 |
| Trauma Injuries | 23 |
| Urgent Care Injuries | 118 |
| Injuries Not Requiring Hospitalization | 44 |

Symptoms

- Impact injuries - pulmonary blast
 - Pulmonary contusion
 - Barotrauma
 - Fractures - internal, compound, spinal
 - Smoke inhalation
 - GI blast injury - edema, hemorrhage, rupture
 - Auditory blast injury - partial or total loss of hearing
 - Lacerations
 - Shrapnel, debris penetrations: glass, metal, etc.
 - Burns
-

Healthcare Considerations

- Triage concerns:
 - Many victims will be unconscious
 - Many victims will have hearing loss - partial or total
- Psychological distressed but uninfected population (a.k.a. "worried well") reporting to hospitals could be as high as 9 times the actual number of physical injuries

Additional Considerations

- Transportation will be limited/inaccessible in the vicinity of the blast
- Services may be unavailable in the vicinity of the blast - water, sewage, electricity, etc.



EMCAPS Scenario Output



IED - Truck Bomb Scenario

Selected Inputs:

| | |
|--------------------|---------------------------------|
| Bomb Size | 500 lbs ANFO |
| Population Density | 1 person per 50 ft ² |

Casualties:

| | |
|---|-------|
| Dead | 173 |
| Trauma Injuries | 303 |
| Urgent Care Injuries | 1,491 |
| Injuries Not Requiring Hospitalization | 558 |

Symptoms

- Impact injuries - pulmonary blast
 - Pulmonary contusion
 - Barotrauma
 - Fractures - internal, compound, spinal
 - Smoke inhalation
 - GI blast injury - edema, hemorrhage, rupture
 - Auditory blast injury - partial or total loss of hearing
 - Lacerations
 - Shrapnel, debris penetrations: glass, metal, etc.
 - Burns
-

Healthcare Considerations

- Triage concerns:
 - Many victims will be unconscious
 - Many victims will have hearing loss - partial or total
- Psychological distressed but uninfected population (a.k.a. "worried well") reporting to hospitals could be as high as 9 times the actual number of physical injuries

Additional Considerations

- Transportation will be limited/inaccessible in the vicinity of the blast
- Services may be unavailable in the vicinity of the blast - water, sewage, electricity, etc.



EMCAPS Scenario Output



IED - Truck Bomb Scenario

Selected Inputs:

| | |
|--------------------|---------------------------------|
| Bomb Size | 500 lbs ANFO |
| Population Density | 1 person per 25 ft ² |

Casualties:

| | |
|---|-------|
| Dead | 347 |
| Trauma Injuries | 608 |
| Urgent Care Injuries | 2,983 |
| Injuries Not Requiring Hospitalization | 1,116 |

Symptoms

- Impact injuries - pulmonary blast
 - Pulmonary contusion
 - Barotrauma
 - Fractures - internal, compound, spinal
 - Smoke inhalation
 - GI blast injury - edema, hemorrhage, rupture
 - Auditory blast injury - partial or total loss of hearing
 - Lacerations
 - Shrapnel, debris penetrations: glass, metal, etc.
 - Burns
-

Healthcare Considerations

- Triage concerns:
 - Many victims will be unconscious
 - Many victims will have hearing loss - partial or total
- Psychological distressed but uninfected population (a.k.a. "worried well") reporting to hospitals could be as high as 9 times the actual number of physical injuries

Additional Considerations

- Transportation will be limited/inaccessible in the vicinity of the blast
- Services may be unavailable in the vicinity of the blast - water, sewage, electricity, etc.



EMCAPS Scenario Output



IED - Truck Bomb Scenario

Selected Inputs:

| | |
|--------------------|---------------------------------|
| Bomb Size | 5000 lbs ANFO |
| Population Density | 1 person per 25 ft ² |

Casualties:

| | |
|---|--------|
| Dead | 1,614 |
| Trauma Injuries | 2,829 |
| Urgent Care Injuries | 13,850 |
| Injuries Not Requiring Hospitalization | 5,183 |

Symptoms

- Impact injuries - pulmonary blast
- Pulmonary contusion
- Barotrauma
- Fractures - internal, compound, spinal
- Smoke inhalation
- GI blast injury - edema, hemorrhage, rupture
- Auditory blast injury - partial or total loss of hearing
- Lacerations
- Shrapnel, debris penetrations: glass, metal, etc.
- Burns

Healthcare Considerations

- Triage concerns:
 - Many victims will be unconscious
 - Many victims will have hearing loss - partial or total
- Psychological distressed but uninfected population (a.k.a. "worried well") reporting to hospitals could be as high as 9 times the actual number of physical injuries

Additional Considerations

- Transportation will be limited/inaccessible in the vicinity of the blast
- Services may be unavailable in the vicinity of the blast - water, sewage, electricity, etc.

Attachment B

Sampled Non-Part 139 Reliever Airport Analysis

*As presented to the U.S. Transportation Security Administration during
public comment by Planehook Aviation Services, LLC
in Houston, Texas on January 28, 2009*

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Climate of 2006 - in Historical Perspective

Annual Report

National Climatic Data Center
21 June 2007

Major Highlights

2006 2nd Warmest Year on Record for US

General Warming Trend, El Niño Contribute to Milder Winter Temps

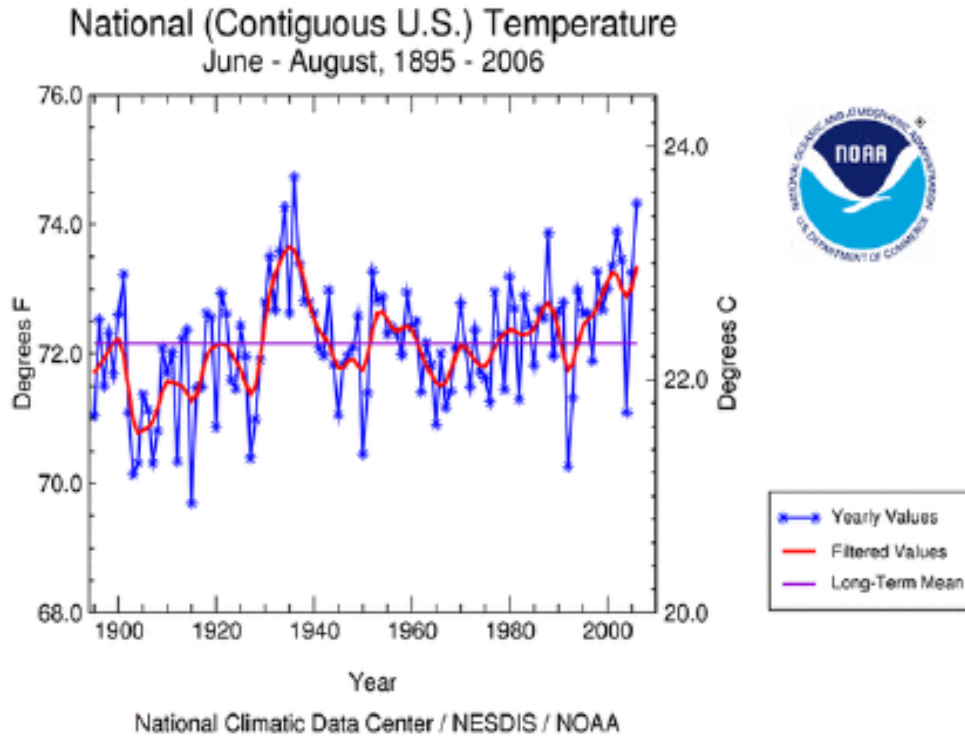
This report was updated on May 1, 2007 to reflect revised statistics for the 2006 annual average temperature for the contiguous U.S. based on updates of preliminary data available in January 2007 as well as changes resulting from the switch from Version 1 to Version 2 of the U.S. Historical Climatology Network (USHCN) data set. A more detailed discussion about how temperature trends are calculated and why differences can occur is available.

In an update to the 2006 average annual temperature for the contiguous U.S., NCDC scientists report that 2006 was the 2nd warmest year on record and nearly identical to the record set in 1998. Seven months in 2006 were much warmer than average, including December, which ended as the eighth warmest December since records began in 1895. Using final quality controlled data from the recently completed USHCN Version 2 data set, the 2006 average annual temperature for the contiguous U.S. was the 2nd warmest on Climate Monitoring record.

The 2006 annual average temperature was 54.9°F, 2.1°F (1.2°C) above the 20th Century mean and 0.08°F (0.04°C) cooler than 1998. These values were calculated using the USHCN Version 2 data set, which exploits recent scientific advances that better address uncertainties in the instrumental record. These data, primarily from rural stations, have been adjusted to remove artificial effects resulting from factors such as urbanization and station and instrument changes which occurred during the period of record.

NOAA/National Climatic Data center

<http://www.ncdc.noaa.gov/oa/climate/research/2006/ann/ann06.html> 1/20/2009



Model Aircraft Takeoff Performance Data

Aircraft: Hawker-Beechcraft Super King Air 200

Maximum Certified Takeoff Weight: 12,500 pounds

| | |
|--------------------------------------|--|
| Condition 1 Takeoff Conditions | Field Elevation: 656 feet MSL |
| | Air Pressure: 29.92" Hg |
| | Outside Air Temperature: 54.9 degrees F (12.7 degrees C) |
| | No Wind |
| | Weight at Takeoff: 12,500 pounds |
| | Runway Condition: Dry |
| Normal Takeoff (0 flaps) | Accel-Stop Distance: 5,200 feet |

| | |
|--------------------------------------|--|
| Condition 2 Takeoff Conditions | Field Elevation: 656 feet MSL |
| | Air Pressure: 29.92" Hg |
| | Outside Air Temperature: 72 degrees F (22.2 degrees C) |
| | No Wind |
| | Weight at Takeoff: 12,500 pounds |
| | Runway Condition: Dry |
| Normal Takeoff (0 flaps) | Accel-Stop Distance: 5,400 feet |

Performance chart analysis performed by Planehook Aviation Services, LLC

Estimated error: Plus or minus 100 feet

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Attachment B

US Reliever Airports

| No | Identifier | Airport Name | Town | St | Field Elevation (ft MSL) | Runway Length (in feet) | Single-Wheel Runway Strength (in 1000's of pounds) | Turbine Fuel Available? (1=Yes) | Remarks |
|----|------------|-------------------------------------|-------------------|----|--------------------------|-------------------------|--|---------------------------------|---|
| 1 | EKY | Bessemer Airport | Bessemer | AL | 700 | 6007 | 60 | 1 | |
| 2 | PLR | St. Clair County Airport | Pell City | AL | 485 | 5001 | 30 | 1 | |
| 3 | ORK | North Little Rock Municipal Airport | North Little Rock | AR | 545 | 5002 | 30 | 1 | |
| 4 | CHD | Chandler Municipal Airport | Chandler | AZ | 1243 | 4870 | 30 | 1 | |
| 5 | FFZ | Falcon Field | Mesa | AZ | 1394 | 5101 | 38 | 1 | |
| 6 | GEU | Glendale Municipal Airport | Glendale | AZ | 1071 | 7150 | 40 | 1 | |
| 7 | AVQ | Marana Regional Airport | Marana | AZ | 2031 | 6901 | 30 | 1 | |
| 8 | DVT | Phoenix Deer Valley Airport | Phoenix | AZ | 1478 | 8197 | 20 | 1 | |
| 9 | GYR | Phoenix Goodyear Airport | Goodyear | AZ | 968 | 8500 | 75 | 1 | |
| 10 | RYN | Ryan Field | Tucson | AZ | 2417 | 5500 | 12.5 | 1 | |
| 11 | SDM | Brown Field Municipal Airport | San Diego | CA | 526 | 7972 | 80 | 1 | |
| 12 | C83 | Byron Airport | Concord | CA | 79 | 4500 | 29.5 | 0 | |
| 13 | CMA | Camarillo Airport | Camarillo | CA | 77 | 6013 | 50 | 1 | |
| 14 | CPM | Compton/Woodley Airport | Compton | CA | 97 | 3322 | 14.5 | 0 | |
| 15 | EMT | El Monte Airport | Alhambra | CA | 296 | 3995 | 12.5 | 1 | |
| 16 | FCH | Fresno Chandler Executive Airport | Fresno | CA | 279 | 3630 | 17 | 0 | Landing fee for acft wt > 12,500 lbs |
| 17 | FUL | Fullerton Municipal Airport | Fullerton | CA | 96 | 3121 | 12.5 | 1 | |
| 18 | SEE | Gillespie Field | El Cajon | CA | 388 | 5342 | 90 | 1 | |
| 19 | DVO | Gnoss Field | San Rafael | CA | 2 | 3300 | 26 | 1 | |
| 20 | HAF | Half Moon Bay Airport | San Carlos | CA | 66 | 5000 | 30 | 0 | |
| 21 | HWDf | Hayward Executive Airport | Hayward | CA | 52 | 5694 | 30 | 1 | |
| 22 | LHM | Lincoln Regional Airport | Lincoln | CA | 121 | 6001 | 30 | 1 | |
| 23 | LVK | Livermore Municipal Airport | Livermore | CA | 400 | 5253 | 45 | 1 | |
| 24 | MYF | Montgomery Field | San Diego | CA | 427 | 4577 | 12 | 1 | |
| 25 | APC | Napa County Airport | Napa | CA | 35 | 5931 | 30 | 1 | |
| 26 | PAO | Palo Alto Airport | Palo Alto | CA | 4 | 2443 | 12.5 | 1 | Airport restricted by airport operator to aircraft with max certificated weight of 12,500 lbs or less |
| 27 | O69 | Petaluma Municipal Airport | Petaluma | CA | 87 | 3600 | 12.5 | 1 | |
| 28 | RNM | Ramona Airport | Ramona | CA | 1395 | 5001 | 75 | 1 | |
| 29 | RHV | Reid-Hillview Airport | San Jose, | CA | 135 | 3100 | 17 | 1 | |
| 30 | SAC | Sacramento Executive Airport | Sacramento | CA | 24 | 5503 | 60 | 1 | |

| | | | | | | | | | |
|----|-----|--------------------------------------|------------------|----|------|-------|------|---|--|
| 31 | MHR | Sacramento Mather Airport | Mather | CA | 99 | 11301 | 160 | 1 | |
| 32 | SQL | San Carlos Airport | San Carlos | CA | 5 | 2600 | 12.5 | 1 | |
| 33 | E16 | South County Airport | San Jose, | CA | 281 | 3100 | 12.5 | 0 | |
| 34 | VNY | Van Nuys Airport | Van Nuys | CA | 802 | 8001 | 90 | 1 | |
| 35 | WHP | Whiteman Airport | Pacoima | CA | 1003 | 4120 | 12.5 | 1 | |
| 36 | TOA | Zamperini Field | Torrance | CA | 103 | 5001 | 30 | 0 | |
| 37 | APA | Centennial Airport | Englewood | CO | 5885 | 10002 | 56 | 1 | |
| 38 | FTG | Front Range Airport | Watkins | CO | 5512 | 8000 | 34 | 1 | |
| 39 | 00V | Meadow Lake Airport | Peyton | CO | 6874 | 6000 | 12.5 | 0 | |
| 40 | HFD | Hartford-Brainard Airport | Hartford, | CT | 18 | 4417 | 30 | 1 | |
| 41 | 4B8 | Robertson Field | Plainville | CT | 200 | 3612 | 25 | 1 | |
| 42 | EVY | Summit Airport | Middletown | DE | 70 | 4488 | | 1 | |
| 43 | SPG | Albert Whitted Airport | St. Petersburg | FL | 7 | 3677 | 60 | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 44 | BCT | Boca Raton Airport | Boca Raton | FL | 13 | 6276 | 40 | 1 | |
| 45 | CLW | Clearwater Air Park | Clearwater | FL | 71 | 3500 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 46 | CRG | Craig Municipal Airport | Jacksonville | FL | 41 | 4008 | 30 | 1 | |
| 47 | DED | Deland Municipal Airport | Deland | FL | 79 | 6001 | 60 | 1 | |
| 48 | ORL | Executive Airport | Orlando | FL | 113 | 6003 | 45 | 1 | |
| 49 | FXE | Fort Lauderdale Executive Airport | Ft. Lauderdale | FL | 13 | 6001 | 30 | 1 | |
| 50 | HEG | Herlong Airport | Jacksonville | FL | 87 | 4000 | 30 | 1 | |
| 51 | TMB | Kendall-Tamiami Executive Airport | Miami | FL | 8 | 5003 | 65 | 1 | |
| 52 | ISM | Kissimmee Gateway Airport | Kissimmee | FL | 82 | 6000 | 75 | 1 | |
| 53 | EVB | New Smyrna Beach Municipal Airport | New Smyrna Beach | FL | 10 | 5000 | 55 | 1 | |
| 54 | F45 | North Palm Beach County G.A. Airport | West Palm Beach | FL | 22 | 4303 | 30 | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 55 | HWO | North Perry Airport | Pembroke Pines | FL | 8 | 3350 | 17 | 1 | ARPT CLSD TO ACFT OVER 12500 LBS MAX CERTD TOG |
| 56 | OPF | Opa Locka Executive Airport | Opa Locka | FL | 8 | 8002 | 96 | 1 | |
| 57 | OMN | Ormond Beach Municipal Airport | Ormond Beach | FL | 29 | 4004 | 30 | 1 | |
| 58 | FMY | Page Field | Fort Myers | FL | 17 | 6404 | 125 | 1 | ARPT CLSD TO JET ACFT & ALL ACFT OVER 12500 |
| 59 | LNA | Palm Beach County Park Airport | West Palm Beach | FL | 14 | 3489 | 30 | 1 | MAX GWT. |
| 60 | VDF | Vandenberg Airport | Tampa | FL | 22 | 5000 | 30 | 1 | |
| 61 | VNC | Venice Municipal Airport | Venice | FL | 18 | 5000 | 14 | 1 | |
| 62 | RYY | Cobb County-McCollum Field | Kennesaw | GA | 1040 | 6305 | 30 | 1 | |
| 63 | PDK | Dekalb-Peachtree Airport | Atlanta | GA | 1003 | 6001 | 46 | 1 | |
| 64 | FTY | Fulton County Airport | Atlanta | GA | 841 | 5796 | 105 | 1 | |
| 65 | JRF | John Rodgers Field | Honolulu | HI | 30 | 8000 | 74 | 0 | |
| 66 | IKV | Ankeny Regional Airport | Ankeny | IA | 910 | 5500 | 30 | 1 | |

| | | | | | | | | | |
|-----|-----|--|-------------------|----|------|------|------|---|--|
| 67 | EUL | Caldwell Industrial Airport | Caldwell | ID | 2431 | 5500 | 72 | 1 | |
| 68 | ARR | Aurora Municipal Airport | Sugar Grove | IL | 712 | 6501 | 30 | 1 | |
| 69 | DPA | Dupage Airport | West Chicago | IL | 759 | 7571 | 30 | 1 | |
| 70 | 3CK | Lake in the Hills Airport | Lake in the Hills | IL | 888 | 3058 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 71 | IGQ | Lansing Municipal Airport | Lansing | IL | 620 | 4002 | 24 | 1 | |
| 72 | LOT | Lewis University Airport | Romeoville | IL | 679 | 5696 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 73 | 3K6 | Shafer Field | St. Jacob | IL | 477 | 2662 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 74 | UGN | Waukegan Regional Airport | Waukegan | IL | 727 | 6000 | 95 | 1 | |
| 75 | JVY | Clark Regional Airport | Sellersburg | IN | 474 | 5500 | 45 | 1 | |
| 76 | 05C | Griffith-Merrillville Airport | Griffith | IN | 634 | 4900 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 77 | TYQ | Indianapolis Executive Airport | Noblesville | IN | 922 | 5501 | 45 | 1 | |
| 78 | UMP | Indianapolis Metropolitan Airport | Indianapolis | IN | 811 | 3850 | 17 | 1 | |
| 79 | MQJ | Mount Comfort Airport | Indianapolis | IN | 862 | 5500 | 30 | 1 | |
| 80 | LOU | Bowman Field | Louisville | KY | 546 | 4357 | 30 | 1 | |
| 81 | NEW | Lakefront Airport | New Orleans | LA | 8 | 6867 | 60 | 1 | |
| 82 | DTN | Shreveport Downtown Airport | Shreveport | LA | 179 | 5018 | 35 | 1 | |
| 83 | ASD | Slidell Airport | Slidell | LA | 29 | 5001 | 48 | 1 | |
| 84 | BVY | Beverly Municipal Airport | Beverly | MA | 107 | 5001 | 30 | 1 | |
| 85 | LWM | Lawrence Municipal Airport | Lawrence, | MA | 148 | 5001 | 45 | 1 | |
| 86 | OWD | Norwood Memorial Airport | Norwood | MA | 49 | 4008 | 58 | 1 | |
| 87 | DMW | Carroll County Regional Airport | Westminster | MD | 789 | 5100 | 22 | 1 | |
| 88 | FDK | Frederick Municipal Airport | Frederick | MD | 303 | 5220 | 60 | 1 | |
| 89 | 2W5 | Maryland Airport | Indian Head | MD | 170 | 3000 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 90 | Gai | Montgomery County Airpark | Gaithersburg | MD | 539 | 4202 | 48 | 1 | |
| 91 | FME | Tipton Airport | Odenton | MD | 150 | 3000 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 92 | W32 | Washington Executive Airport | Clinton | MD | 249 | 3000 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 93 | LEW | Auburn/Lewiston Municipal Airport | Auburn | ME | 288 | 5001 | 30 | 1 | |
| 94 | SFM | Sanford Regional Airport | Sanford | ME | 244 | 6000 | 50 | 1 | |
| 95 | 1D2 | Canton-Plymouth-Mettetal Airport | Canton | MI | 696 | 2303 | 12.5 | 0 | |
| 96 | ONZ | Grosse Ile Municipal Airport | Grosse Ile | MI | 591 | 4846 | 66 | 1 | |
| 97 | OZW | Livingston County Airport | Howell | MI | 962 | 5002 | 30 | 1 | |
| 98 | Y47 | Oakland Southwest Airport | Waterford, | MI | 926 | 3128 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 99 | VLL | Oakland/Troy Airport | Waterford, | MI | 727 | 3549 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 100 | D98 | Romeo State Airport | Ray | MI | 739 | 4000 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 101 | PHN | St. Clair County International Airport | Kimball Township | MI | 650 | 5104 | 40 | 1 | |
| 102 | LVN | Airlake Airport | Minneapolis | MN | 960 | 4098 | 30 | 1 | |
| 103 | ANE | Anoka County-Blaine Airport | Minneapolis | MN | 912 | 5000 | 23 | 1 | |

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|-----|-----|-------------------------------------|--------------------|----|------|------|-------|---|--|
| 104 | MIC | Crystal Airport | Minneapolis | MN | 869 | 3266 | 13 | 1 | |
| 105 | FCM | Flying Cloud Airport | Minneapolis | MN | 906 | 3909 | 30 | 1 | |
| 106 | STP | Holman Field | St. Paul | MN | 705 | 6491 | 45 | 1 | |
| 107 | 21D | Lake Elmo Airport | St. Paul | MN | 933 | 2850 | 13 | 0 | |
| 108 | SGS | South St. Paul Municipal Airport | South St. Paul | MN | 820 | 4001 | 30 | 1 | |
| 109 | 1H0 | Creve Coeur Airport | St. Louis | MO | 463 | 4500 | 12.5 | 1 | Remark A30 restricts max weight to 12,500 lbs or less |
| 110 | LXT | Lee's Summit Municipal Airport | Lees Summit | MO | 1004 | 4016 | 30 | 1 | |
| 111 | 3SQ | St. Charles Airport | St. Charles | MO | 442 | 3451 | 8 | 0 | |
| 112 | SET | St. Charles County Airport | Portage Des Sioux | MO | 437 | 3800 | 12.5 | 0 | |
| 113 | OLV | Olive Branch Airport | Olive Branch | MS | 402 | 6000 | 50.0' | 1 | |
| 114 | EQY | Monroe Regional Airport | Monroe | NC | 679 | 5500 | 25 | 1 | |
| 115 | TTA | Sanford-Lee County Regional Airport | Sanford | NC | 247 | 6500 | 30 | 1 | |
| 116 | MLE | Millard Airport | Omaha | NE | 1051 | 3801 | 12.5 | 1 | |
| 117 | ASK | Boire Field | Nashua | NH | 199 | 5501 | 62 | 1 | |
| 118 | 47N | Central Jersey Regional Airport | Manville | NJ | 86 | 3509 | 30 | 0 | |
| 119 | CDW | Essex County Airport | Fairfield | NJ | 173 | 4553 | 30 | 1 | |
| 120 | N07 | Lincoln Park Airport | Lincoln Park | NJ | 182 | 2942 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 121 | LDJ | Linden Airport | Linden | NJ | 23 | 4137 | 31.5 | 1 | |
| 122 | BLM | Monmouth Executive Airport | Farmingdale | NJ | 159 | 7300 | 12.5 | 1 | SW Gross Weight is 12,5 for RWY 3/21, but no limit is provided for RWY 14/32 |
| 123 | MMU | Morristown Municipal Airport | Morristown | NJ | 187 | 5999 | 30 | 1 | |
| 124 | 39N | Princeton Airport | Princeton | NJ | 128 | 3500 | 15 | 1 | |
| 125 | N51 | Solberg-Hunterdon Airport | Whitehouse Station | NJ | 195 | 3735 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 126 | SMQ | Somerset Airport | Bedminster | NJ | 105 | 2733 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 127 | FWN | Sussex Airport | Sussex | NJ | 421 | 3499 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 128 | N87 | Trenton-Robbinsville Airport | Robbinsville | NJ | 119 | 4275 | 25 | 0 | |
| 129 | AEG | Double Eagle II Airport | Albuquerque | NM | 5837 | 7398 | 30 | 1 | |
| 130 | CXP | Carson City Airport | Carson City | NV | 4697 | 5906 | 30 | 1 | |
| 131 | HND | Henderson Executive Airport | Henderson | NV | 2492 | 6501 | 30 | 1 | |
| 132 | 4SD | Reno Stead Airport | Reno | NV | 5050 | 9000 | 65 | 1 | |
| 133 | HWV | Brookhaven Airport | Shirley | NY | 81 | 4222 | 52 | 0 | |
| 134 | 9G0 | Buffalo Airfield | West Seneca | NY | 670 | 2668 | 8 | 0 | |
| 135 | BQR | Buffalo-Lancaster Regional Airport | Williamsville | NY | 750 | 3200 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 136 | D38 | Canandaigua Airport | Canandaigua | NY | 814 | 3200 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 137 | GVQ | Genesee County Airport | Batavia | NY | 913 | 5500 | 21 | 1 | |
| 138 | 20N | Kingston-Ulster Airport | Kingston | NY | 149 | 3100 | 12.5 | 0 | |
| 139 | N45 | Kobelt Airport | Gardiner | NY | 420 | 2864 | 13 | 0 | |

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|-----|-----|---|-----------------|----|------|------|------|---|--|
| 140 | 5G0 | Le Roy Airport | Rochester | NY | 780 | 2640 | 12.5 | 0 | |
| 141 | 7G0 | Ledgedale Airpark | Brockport | NY | 666 | 4205 | 12 | 1 | |
| 142 | 1G6 | Michael Airfield | Cicero | NY | 400 | 2500 | 13 | 0 | |
| 143 | MTP | Montauk Airport | Montauk, L.I | NY | 6 | 3481 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 144 | 06N | Randall Airport | Middletown | NY | 523 | 2810 | 12.5 | 0 | |
| 145 | SCH | Schenectady County Airport | Scotia | NY | 378 | 7000 | 95 | 1 | |
| 146 | 44N | Sky Acres Airport | Lagrangeville | NY | 698 | 3830 | 20 | 0 | |
| 147 | 1N2 | Spadaro Airport | East Moriches | NY | 50 | 2400 | 12.5 | 0 | |
| 148 | B16 | Whitfords Airport | Weedsport | NY | 400 | 3630 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 149 | SDC | Williamson-Sodus Airport | Williamson | NY | 424 | 3801 | 12 | 0 | |
| 150 | N82 | Wurtsboro-Sullivan County Airport | Wurtsboro | NY | 560 | 3592 | 30 | 0 | |
| 151 | TZR | Bolton Field | Columbus | OH | 905 | 5500 | 48 | 1 | |
| 152 | HAO | Butler County Regional Airport | Hamilton | OH | 633 | 5500 | 60 | 1 | |
| 153 | ISZ | Cincinnati-Blue Ash Airport | Cincinnati | OH | 856 | 3499 | 12.5 | 1 | |
| 154 | CGF | Cuyahoga County Airport | Cleveland | OH | 879 | 5102 | 43 | 1 | |
| 155 | MGY | Dayton-Wright Brothers Airport | Vandalia | OH | 957 | 5000 | 50 | 1 | |
| 156 | 1G5 | Medina Municipal Airport | Medina | OH | 1190 | 3556 | 30 | 0 | |
| 157 | LNN | Willoughby Lost Nation Municipal Airport | Willoughby | OH | 626 | 5028 | 68 | 1 | |
| 158 | RVS | Richard Lloyd Jones, Jr. Airport | Tulsa | OK | 638 | 5102 | 30 | 1 | |
| 159 | OUN | University of Oklahoma Westheimer Airport | Norman | OK | 1182 | 5199 | 30 | 1 | |
| 160 | PWA | Wiley Post Airport | Okalahoma City | OK | 1300 | 7199 | 35 | 1 | |
| 161 | HIO | Portland- Hillsboro Airport | Portland | OR | 208 | 6600 | 50 | 1 | |
| 162 | TTD | Portland-Troutdale Airport | Portland | OR | 39 | 5399 | 19 | 1 | |
| 163 | AGC | Allegheny County Airport | West Mifflin | PA | 1252 | 6501 | 90 | 1 | |
| 164 | OQN | Brandywine Airport | West Chester | PA | 466 | 3347 | 10 | 1 | |
| 165 | BTP | Butler County Airport | Butler | PA | 1248 | 4801 | 37 | 1 | |
| 166 | CXY | Capital City Airport | Middletown | PA | 347 | 5001 | 65 | 1 | |
| 167 | MQS | Chester County Airport | Coatesville | PA | 660 | 5400 | 30 | 1 | |
| 168 | DYL | Doylestown Airport | Doylestown | PA | 394 | 3004 | 12 | 1 | |
| 169 | N57 | New Garden Airport | Toughkenamon | PA | 436 | 3695 | | 0 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 170 | PNE | Northeast Philadelphia Airport | Philadelphia | PA | 121 | 7000 | 60 | 1 | |
| 171 | FWQ | Rostraver Airport | Belle Vernon | PA | 1228 | 4001 | 26 | 1 | |
| 172 | LOM | Wings Field | Blue Bell | PA | 302 | 3700 | | 1 | No SW Gross Weight Provided on FAA Form 5010-1 |
| 173 | SFZ | North Central State Airport | North Kingstown | RI | 441 | 5000 | 30 | 1 | |
| 174 | OQU | Quonset State Airport | North Kingstown | RI | 18 | 7504 | 175 | 1 | |
| 175 | UZA | Bryant Field | Rock Hill | SC | 666 | 5500 | 30 | 1 | |

| | | | | | | | | |
|-----|-----|------------------------------------|----------------|----|------|------|------|---|
| 176 | CUB | Columbia Owens Downtown Airport | Columbia | SC | 193 | 5002 | 20 | 1 |
| 177 | 2M8 | Charles W. Baker Airport | Millington | TN | 247 | 3500 | 25 | 1 |
| 178 | JWN | John C. Tune Airport | Nashville | TN | 495 | 5500 | 24 | 1 |
| 179 | DKX | Knoxville Downtown Island Airport | Knoxville | TN | 833 | 3497 | 22 | 1 |
| 180 | ADS | Addison Airport | Addison | TX | 644 | 7202 | 80 | 1 |
| 181 | GKY | Arlington Municipal Airport | Arlington | TX | 628 | 6080 | 60 | 1 |
| 182 | TKI | Collin County Regional Airport | Mc Kinney | TX | 585 | 7001 | 75 | 1 |
| 183 | RBD | Dallas Executive Airport | Dallas | TX | 660 | 6451 | 35 | 1 |
| 184 | DWH | David Wayne Hooks Memorial Airport | Spring | TX | 152 | 7009 | 30 | 1 |
| 185 | DTO | Denton Municipal Airport | Denton | TX | 642 | 5999 | 70 | 1 |
| 186 | FWS | Fort Worth Spinks Airport | Burleson | TX | 700 | 6002 | 40 | 1 |
| 187 | GTU | Georgetown Municipal Airport | Georgetown | TX | 790 | 5000 | 30 | 1 |
| 188 | GPM | Grand Prairie Municipal Airport | Grand Prairie | TX | 588 | 4001 | 30 | 1 |
| 189 | AXH | Houston-Southwest Airport | Arcola | TX | 68 | 5003 | 13 | 1 |
| 190 | T41 | La Porte Municipal Airport | La Porte | TX | 25 | 4165 | 23 | 1 |
| 191 | LNC | Lancaster Airport | Lancaster | TX | 501 | 5000 | 20 | 1 |
| 192 | CXO | Lone Star Executive Airport | Conroe | TX | 245 | 6000 | 140 | 1 |
| 193 | LVI | Pearland Regional Airport | Friendswood | TX | 44 | 4313 | 8 | 1 |
| 194 | HYI | San Marcos Municipal Airport | San Marcos | TX | 597 | 6330 | 80 | 1 |
| 195 | GLS | Scholes International Airport | Galveston | TX | 6 | 6001 | 30 | 1 |
| 196 | SSF | Stinson Municipal Airport | San Antonio | TX | 577 | 4835 | 12 | 1 |
| 197 | SGR | Sugar Land Regional Airport | Sugar Land | TX | 82 | 8000 | 80 | 1 |
| 198 | IWS | West Houston Airport | Houston | TX | 111 | 3953 | 18 | 1 |
| 199 | U42 | Salt Lake City Municipal 2 Airport | Salt Lake City | UT | 4607 | 5860 | 12.5 | 1 |
| 200 | FCI | Chesterfield County Airport | Richmond | VA | 236 | 5500 | 40 | 1 |
| 201 | PVG | Hampton Roads Executive Airport | Chesapeake | VA | 23 | 4056 | 12.5 | 1 |
| 202 | JYO | Leesburg Executive Airport | Leesburg | VA | 389 | 5500 | 30 | 1 |
| 203 | HEF | Manassas Regional Airport | Manassas | VA | 192 | 5700 | 30 | 1 |
| 204 | RMN | Stafford Regional Airport | Fredericksburg | VA | 211 | 5000 | 30 | 1 |
| 205 | HWY | Warrenton-Fauquier Airport | Midland | VA | 336 | 5000 | 15 | 1 |
| 206 | S50 | Auburn Municipal Airport | Auburn | WA | 63 | 3400 | 12.5 | 0 |
| 207 | SFF | Felts Field | Spokane | WA | 1953 | 4500 | 30 | 1 |
| 207 | S43 | Harvey Field | Snohomish | WA | 16 | 2671 | 10 | 1 |
| 208 | RNT | Renton Municipal Airport | Renton | WA | 32 | 5382 | 100 | 1 |
| 209 | O2C | Capitol Airport | Pewaukee | WI | 850 | 3501 | 0 | 0 |
| 210 | RAC | John H. Batten Airport | Racine | WI | 674 | 6574 | 50 | 1 |
| 211 | ENW | Kenosha Regional Airport | Kenosha | WI | 742 | 5499 | 62 | 1 |

No SW Gross Weight Provided on FAA Form 5010-1

| | | | | | | | |
|---------|-------------------------------|-------------|----|-----|------|----|---|
| 212 MWC | Lawrence J. Timmerman Airport | Milwaukee, | WI | 745 | 4106 | 30 | 1 |
| 213 UES | Waukesha County Airport | Waukesha | WI | 911 | 5848 | 40 | 1 |
| 214 ETB | West Bend Municipal Airport | West Bend | WI | 867 | 4494 | 15 | 1 |
| 215 MRB | Shepherd Field | Martinsburg | WV | 565 | 7815 | 75 | 1 |

| | | | |
|---------|-------|--------|-------|
| Minimum | 2 | 2303 | 8 |
| Average | 656.1 | 4965.0 | 38.32 |
| Median | 439 | 5000 | 30 |
| Maximum | 6874 | 11301 | 175 |

Number Providing Jet A Fuel 180

Unfavorable airport characteristics for large aircraft

1. Runways 5,000 feet or less in length
2. Runway single-wheel load bearing rating 12,500 lbs or less
3. Airports without Jet A (or similar) fuel available

| | |
|---|----|
| Airports with all 3 unfavorable characteristics | 20 |
| Airports with 2 unfavorable characteristics | 45 |
| Airports with 1 unfavorable characteristics | 51 |

| | |
|--|-----|
| 1 or more unfavorable characteristics: | 116 |
| 2 or more unfavorable characteristics: | 65 |
| 3 unfavorable characteristics: | 20 |

Note: Airfields with no single-wheel weight bearing rating indicate that the value is not known IAW FAA Aeronautical Circular 150/5200-35. Because Pilots-in-Command of large aircraft would normally not plan to make use of a field without knowing the weight bearing capacity, the airport would operate without large aircraft. Therefore, we interpret this lack of information to mean a load bearing capacity of 12,500 lbs or less for the purpose of this analysis.