

Supporting Statement, Part A

OMB Control Number 2120-0728

Automatic Dependent Surveillance – Broadcast (ADS-B) Out

Performance

Requirements to Support Air Traffic Control (ATC) Service

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.

Title 49 of the United States Code, Subtitle VII, Aviation Programs, described in detail the scope of the Federal Aviation Administration (FAA) Administrator’s authority. Rulemaking for Automatic Dependent Surveillance-Broadcast (ADS-B) Out was promulgated under the authority described Subtitle VII, Part A, Subpart I, [Section 40103](#), Sovereignty and use of the Airspace, and Subpart III, [Section 44701](#), General requirements. Under Section 40103, the FAA is charged with prescribing regulations on: (1) the flight of aircraft, including regulations on safe altitudes; (2) the navigation, protection, and identification of aircraft; and (3) the safe and efficient use of the navigable airspace. Under Section 44701, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods and procedures the Administrator finds necessary for safety in air commerce and national security.

On May 28, 2010, the FAA published the final rule entitled *Automatic Dependent Surveillance-Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (ATC) Service*.¹ As of January 2, 2020, when operating in the airspace designated in [14 CFR § 91.225\(a\) and \(d\)](#), operators must be equipped with ADS-B Out avionics that meet the performance requirements of [14 CFR § 91.227](#).

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

As of January 2, 2020, ADS-B is the preferred surveillance method for controlling air traffic across the National Airspace System (NAS). ADS-B supports the aircraft surveillance needs of the FAA by requiring avionics equipment that meet the performance requirements of 14 CFR § 91.227 and continuously transmit aircraft information to be received by the FAA, via automation, for use in providing air traffic surveillance services. ADS-B is transforming all segments of aviation (e.g., real-time precision shared situational awareness, and advanced applications for pilots and controllers alike).

ATC is currently using ADS-B Out position broadcasts, i.e., ADS-B collected data, received from approximately 800 ground stations, to support separation assurance and traffic flow management. The FAA has integrated ADS-B collected data, along with radar returns, and displays this information to controllers. ADS-B is integrated into automation platforms at 24 FAA en route ATC facilities, which encompasses 20 continental U.S. En Route Automation Modernization (ERAM)² sites, and 4 overseas

¹ 75 FR 30193.

² En Route Automation Modernization (ERAM) is used at FAA high altitude en-route centers. ERAM processes flight and surveillance data, provides communications and generates display data to air traffic controllers.

Microprocessor-En Route Automated Radar Tracking System (MEARTS).³ ADS-B collected data is also fused into flight tracker automation at 155 Terminal Radar Approach Control Facilities (TRACONs).⁴

The FAA has integrated ADS-B collected data in all the above listed ATC facilities in order to enhance surveillance capabilities and create a safer and more efficient NAS. ADS-B broadcasted data provides ATC with a more accurate and timelier surveillance picture which allows ATC to make more-informed decisions, quickly and effectively.

The use of ADS-B collected data has enabled more efficient aircraft separation and increased aircraft capacity in the NAS. In many areas of the NAS, ADS-B collected data provides better surveillance at lower altitudes and areas with limited-to-no radar coverage. As a result of a partnership between the U.S. and Mexico, ADS-B separation services, based on ADS-B broadcasted data, are now available at border-area ATC facilities, providing seamless coverage for air traffic routes across the Gulf of Mexico.

The FAA also uses the broadcasted data in airport operations through the Airport Surface Detection System-Mode X (ASDE-X) and Airport Surface Surveillance Capability (ASSC) ground-surveillance systems. These systems combine radar, ADS-B collected data, and other data sources to enable ATC to track surface movement of aircraft and airport ground vehicles, which helps reduce taxiway conflicts and runway incursions.

ADS-B collected data is also used to improve the ability to perform life-saving search and rescue missions. ATC tracking aircraft broadcasting ADS-B data have more accurate information about the last reported position of the aircraft.

In summary the FAA is using ADS-B collected data to:

- Provide more accurate and timely surveillance information with frequent updated aircraft information.
- Enhance ATC situational awareness of aircraft on the ground and within the airspace.
- Enable ATC to quickly and effectively identify and resolve potentially hazardous situations.
- Reduce ATC separation standards due to increased precision of ADS-B position data.
- Provide ATC surveillance coverage at lower altitudes.
- Create more efficient spacing and optimal routing in non-radar environments, including the busy airspace in the Gulf of Mexico, mountainous regions of Colorado, and the lower altitudes of Alaska
- Increase system efficiency and capacity while maintaining or improving safety.

³Microprocessor-En Route Automated Radar Tracking System (MEARTS) is an automated radar and radar beacon tracking system capable of employing both short-range (airport surveillance radar) and long range (air route surveillance radar)) radars. Install at 4 overseas MEARTS facilities to include Anchorage, Honolulu, San Jan and Guam.

⁴ Terminal Radar Approach Control Facilities (TRACONs) are facilities where air traffic controllers use integrated radar, ADS-B and Wide-Area Multilateration (WAM) data to guide aircraft approaching and departing airports generally within a 30- to 50-mile radius up to 10,000 feet, as well as aircraft that may be flying over that airspace.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Collection of information is 100% electronic. ADS-B is a system in which electronic, i.e. avionics, equipment onboard an aircraft automatically broadcasts the precise location of the aircraft via a digital link.⁵ The FAA uses ADS-B collected data, in conjunction with radar and multilateration, to show the aircraft's position and altitude on ATC display screens. Dedicated ADS-B ground stations receive ADS-B broadcasts and relay the collected information to ATC for precise tracking of the aircraft.

ADS-B equipment is *automatic* because it periodically transmits position information with no pilot or operator involvement required. It is *dependent* because the position and velocity vectors are derived from the Global Positioning System (GPS) or other suitable Navigation Systems (i.e., Flight Management System) and not from operator input. It is called *surveillance* because it provides a method of determining 3-dimensional position and identification of aircraft, vehicles, or other assets. It is termed *broadcast* because aircraft avionics equipment transmits the information available to anyone with the appropriate receiving equipment. ADS-B is the first cooperative dependent surveillance technology to be fully certified by the FAA.

ATC is currently using ADS-B collected data to control air traffic across the nation. ADS-B ground stations are small and easily maintained and can be placed in areas where radar was never possible. New, state-of-the-art computer systems have been deployed to FAA ATC facilities across the country. These systems, Standard Terminal Automation Replacement System (STARS)⁶ and ERAM, are enabling ADS-B capabilities for FAA air traffic controllers. STARS give controllers a complete, precise picture of the airspace, enabling them to manage aircraft they are tracking with radar or ADS-B.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

ADS-B supplements radar technology with GPS satellites position accuracy, bringing major advantages. Radar relies on radio signals and antennas to determine an aircraft's location. ADS-B uses GPS satellite signals to track aircraft movements. ATC and aircraft equipped with ADS-B In can immediately receive this information. ADS-B offers more precise tracking of aircraft compared to radar technology, which sweeps for position information every 5 to 12 seconds. The improved accuracy, integrity and reliability of ADS-B and the use of satellites signals over radar means ATC will be able to safely reduce the minimum separation distance between aircraft and increase aircraft capacity in the NAS.

Radio waves are limited to line of site, meaning radar signals cannot travel long distances or penetrate mountains or other obstacles. ADS-B ground stations are smaller and more adaptable than radar towers

⁵ The U.S. ADS-B network is a dual system which supports both 1090 MHz and 978 MHz. Meaning, that in the U.S., ADS-B equipped aircraft exchange ADS-B data/information on either 978 MHz or 1090 MHz.

⁶ FAA is upgrading ATC systems at ATC facilities nationwide with the Standard Terminal Automation Replacement System (STARS). STARS improve the computer system used by air traffic controllers at terminal facilities to a single, state-of-the-art platform.

and can be placed in locations not possible with radar. With ADS-B ground stations in place throughout the NAS, even in hard to reach areas, e.g. Alaska or Gulf of Mexico, ADS-B provides better surveillance regardless of terrain or other obstacles.

ADS-B forms the foundation for the Next Generation Air Transportation System (NextGen) by moving from ground radar and navigational aids to precise tracking using satellite signals. ADS-B is an environmental friendly technology that enhances safety and efficiency, and directly benefits pilots. ADS-B provides a wider range of services to aircraft users and enables applications that are not available with radar or multilateration.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

In developing the ADS-B Final Rule, the FAA conducted analyses regarding impacts on small entities, and in this case, private general aviation (GA) and small commercial operators. In conducting these analyses, the FAA determined that the collection of ADS-B Out broadcasted information cannot be used effectively as the preferred surveillance system if certain categories of airspace users were subject to separate surveillance systems; small GA operators and small commercial operators operate in the same airspace as larger air carriers. Requiring two primary surveillance systems would not improve efficiency or directly benefit operators within the NAS.

In minimizing the burden to small businesses or small entities, and in this case GA and small commercial operators, the FAA collaborated with industry to identify the aircraft owners who are most likely to delay their decision to equip with ADS-B because of cost concerns. The FAA identified owners of GA fixed-wing, single-engine piston aircraft, considered as small businesses or other small entities, as those most likely to have cost concerns. In turn, the FAA launched the “General Aviation ADS-B Rebate Program” to assist in defraying some of the costs associated with the equipment and installation for eligible general aviation aircraft.

The “General Aviation ADS-B Rebate Program” is for owners of U.S.-registered, fixed-wing, single-engine piston aircraft whose operation required an onboard pilot, first registered before January 1, 2016. A minimal rule-compliant system costs approximately \$2,000, plus installation costs. A survey of aircraft owners found that getting costs below \$2,000 would encourage many price-sensitive owners to equip. The FAA chose \$500 as an amount that would reduce the price to that more-attractive range. This amount also maximized the total number of rebates the agency could distribute, based on total funding approved for the program. This helps focus the incentive on the largest group of aircraft owners with the greatest cost concerns.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

FAA is predicting a steady growth in air travel and to better prepare for the forecasted increase, an overhaul of the national airspace system is warranted. Older generation technology such as radar-based air traffic surveillance and navigation by reference to land-based navigational aids simply cannot sustain the anticipated air travel growth rates. ADS-B offers benefits well beyond compliance to the FAA ADS-B

rule. Safer and more efficient operations enable ADS-B Out aircraft to send highly accurate Wide Area Augmentation System (WAAS) position data to air traffic control once per second, so they in turn have access to enhanced information to better predict aircraft position and intent. In turn, this enables ATC to provide pilots with better separation services, potentially reducing fuel burn and aircraft emissions. ADS-B further promises to offer surveillance in remote areas that do not currently offer coverage with antiquated radar technology. Aircraft that are equipped to broadcast ADS-B Out, have access to modern technology that is adaptable to withstand the predicted air travel growth for the future.

Equipping aircraft for future ADS-B initiatives has a direct return on investment for the aircraft owner, as well. Capitalizing on early adoption of ADS-B gives aircraft owners immediate and long-term value added. In addition to monetary return, long-term return on investment will easily be quantified as the safety of flying public improves.

Without ADS-B as a primary technology supporting the FAA's Next Generation Air Traffic Control System, or NextGen, FAA's ability to reduce aircraft separation and move ATC from ground-based radar to satellite-derived position sources or provide a more efficient service for aircraft operating in the NAS to meet the growing demands of the ATC system would be hindered.

As part of NextGen development, the FAA determined that it is essential to move from ground-based surveillance and navigation to more dynamic and accurate airborne-based systems and procedures if the FAA is to enhance capacity, reduce delays, and improve environmental performance. ADS-B equipment is an advanced surveillance technology that combines an aircraft's positioning source, aircraft avionics, and a ground infrastructure to create an accurate surveillance interface between aircraft and ATC. ADS-B is a performance-based surveillance technology that is more precise than legacy surveillance radar. ADS-B is expected to provide air traffic controllers and pilots with more accurate information to help keep aircraft safely separated in the air and on runways. The technology combines a positioning capability, aircraft avionics, and ground infrastructure to enable a more accurate transmission of information from aircraft to ATC. Without ADS-B, the FAA would lose these safety and efficiency benefits.

- 7. Explain any special circumstances that would cause an information collection to be conducted in a manner that; require respondents to report information quarterly; require respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it; require respondents to submit more than an original and two copies of any document; require respondents to retain records; require a physical document; be connected with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study; require the use of a statistical data classification that has not been reviewed and approved by OMB; that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

There are no special circumstances.

The FAA's ADS-B data collection and use of received ADS-B broadcasted data to provide ATC across the nation does not fall under any of the eight aforementioned special circumstances.

ADS-B equipment is *automatic* because it periodically transmits position information with no pilot or operator involvement required. It is *dependent* because the position and velocity vectors are derived from the Global Positioning System (GPS) or other suitable Navigation Systems (i.e., Flight Management System) and not from operator input. It is called *surveillance* because it provides a method of determining 3-dimensional position and identification of aircraft, vehicles, or other assets. It is termed *broadcast* because aircraft avionics equipment transmits the information available to anyone with the appropriate receiving equipment. ADS-B equipment is further designated as *In* or *Out*. ADS-B Out refers to equipment that broadcasts information about an aircraft's GPS location, altitude, ground speed, and other data to ground stations. ADS-B In, which is not required by law, refers to equipment that provides operators with weather and traffic position information delivered directly to the cockpit.

8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

A Federal Register Notice published on October 16, 2019 ([84 FR 55370](#)) solicited public comment. The FAA received two non-substantive comments from the same individual that simply restated the docket and OMB Control Number. Neither of these comments required any action by FAA.

Air traffic service providers around the world are moving toward airspace and flight operations to enable greater flexibility and adaptability, along with assuring improved traffic flow, capacity, efficiency, and safety. A key part is the transition from radar surveillance to ADS-B to more accurately and reliably track airplanes in flight and on the ground. Developed and certified as a viable lower-cost alternative from conventional radar, ADS-B allows ATC to monitor and control airplanes with greater precision and over a far larger percentage of the NAS. For NextGen, ADS-B is one of the most important underlying technologies supporting Trajectory Based Operations (TBO).

The FAA continues to collaborate with the aviation community to help aircraft owners make the appropriate equipage decisions regarding ADS-B Out. FAA has identified and resolved many barriers to equipage, including cost and availability of equipment for most aircraft types. The FAA also continues to use multiple forms of communication to inform aircraft owners, General Aviation (GA) community, dispatchers, commercial operators, and others to assist aircraft operators in achieving compliance with the requirements of 14 CFR §§ 91.225, and 91.227. Included in the outreach effort was information that described ADS-B Out, ADS-B In, ADS-B Rule Airspace, and how the FAA plans to transform ATC from current radar-based surveillance to satellite-based GPS surveillance. Outreach efforts included the NextGen Advisory Committee (NAC), FAA-sponsored speaker events, information posted on FAA websites, information publicized via the Aircraft Owners and Pilot Association, National Business Aircraft Association, General Aviation Manufacturers Association, Experimental Aircraft

Association, Aircraft Electronics Association, Equip2020, and other organizations as means to inform aircraft owners and operators.

9. Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.

None – there are no payments or gifts provided to respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy.

The respondents are not given assurance of confidentiality.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

There are no questions of a sensitive nature. All ADS-B data collection is done 100% electronically direct from aircraft avionics.

12. Provide estimates of the hour burden of the collection of information.

ADS-B equipment is *automatic* because it periodically transmits position information with no pilot or operator involvement required. There are currently two types of ADS-B transmissions, 1090 MHz Mode S extended squitter (ES) and 978 MHz UAT⁷, approved for use within the U.S. The ADS-B data received is collected electronically without input from the aircraft operator. Larger aircraft are required to have 1090 MHz Mode S transponder equipment for collision avoidance, so the use of the Mode S ES carrier for ADS-B transmissions is the most used path to meet ADS-B Out performance requirements. The Mode S ES ADS-B message is a 120-bit transmission that contains the aircraft identification, position, velocity, and status. The message is broadcast with a period that ranges randomly between 0.4 and 0.6 seconds. This randomization function is designed to prevent aircraft from having synchronized transmissions on the same frequency, and thus obscuring each other's transmissions. UAT ADS-B message transmissions are governed by a combination of time-slotted and random-access techniques. It is commonly understood that UAT ADS-B messages are broadcasted every second; although only 800 milliseconds long with 3952 Message Start Opportunities that are spaced at 250 microsecond (μ s) intervals.

Table 1 below reflects the number of aircraft who have been detected by FAA network as having installed ADS-B Out equipment:

ADS-B Collection* Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
Category			

⁷ Aircraft that only fly below 18,000 feet and only in the U.S. can opt instead of Mode S ES for a dedicated 978 MHz UAT. The 978 MHz UAT frequency will allow aircraft owners/operators to keep an existing Mode C or Mode S transponder.

ADS-B Collection* Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
Air Carrier	6,527	0	0
General Aviation (GA)**	103,140	0	0
International Air Carrier	3,037	0	0
International GA	6,431	0	0
U.S. Military and U.S. Special Use***	2,916	0	0

Table 1

* May 1, 2020 Equipage (good install) monitoring – aircraft detected by FAA Network

** Includes fixed wing, experimental, light-sport aircraft and rotorcraft

*** January 2020 Equipage (good install) monitoring – aircraft detected by FAA Network

Table 2 below reflects the number of aircraft projected by FAA that may be installing ADS-B Out equipment:

ADS-B Collection Summary (Annual numbers)	Reporting	Recordkeeping	Disclosure
Category			
Air Carrier	0*	0	0
General Aviation (GA)**	57,000***	0	0

* May 1, 2020 – No updates starting May 2020 since all air carriers are reporting 100% equipped

** Includes fixed wing, experimental, light-sport aircraft and rotorcraft

*** Based on estimates of maximum of 160,000 U.S. general aviation aircraft who may install ADS-B to meet rule

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information.

The ADS-B final rule did not add any continuing airworthiness inspection requirements. Transponder-based ADS-B systems will still be required to meet the requirements of [14 CFR § 91.413](#). ADS-B systems, without a transponder, do not have any new inspection requirements. The FAA will use the ground automation system⁸ to continuously monitor ADS-B functionality, which accomplishes the purposes of a recurrent inspection.

The latest avionics cost estimate for an ADS-B Out-compliant transponder is \$2,531.81 in BY19 dollars. These costs include the sum of the unit, installation, certification costs and maintenance. These costs do not include the costs of upgrades for future navigational equipment (e.g., GPS, or navigational aids such as installing ADS-B In). Nor does this cost account for the validation of the performance of the ADS-B

⁸ ITT Corporation was selected in August 2007 to be the prime contractor for the ADS-B ground stations. ITT maintains the nationwide ADS-B network. FAA’s ADS-B Performance Monitoring system is capable of detecting each flight of an aircraft with ADS-B Out equipment that is failing to broadcast the information required by 14 CFR § 91.227.

Out equipment installed on aircraft by aircraft owners or operators (e.g., flight in FAA ADS-B coverage areas and completing a Public ADS-B Performance Reports (PAPR))⁹.

14. Provide estimates of annualized costs to the Federal government.

The Federal government incurs costs to provide ADS-B surveillance uplink and downlink services. These additional services include Traffic Information Service-Broadcast (TIS-B) and Flight Information Service-Broadcast (FIS-B). Since these costs are incurred in order to provide data on aircraft, they are all considered data collection costs.

Total Federal government costs to provide these services are estimated at \$1.95 billion over 27 years or about \$72 million per year. Total costs discounted by 7% are \$1.1 billion as presented in Table 2 below. To annualize these costs over 27 years FAA has multiplied \$1.092 billion by .08343 to derive \$91.1 million annualized cost.

Year	ADS-B Out Ground Costs	7% Discount Rate	Total ADS-B Out Ground Costs Discounted at 7%
2009	\$57,864	1.0	\$57,864
2010	\$137,028	0.9346	\$128,063
2011	\$121,539	0.8734	\$106,157
2012	\$133,424	0.8163	\$108,914
2013	\$137,925	0.7629	\$105,222
2014	\$129,103	0.7130	\$92,049
2015	\$103,121	0.6663	\$68,714
2016	\$85,584	0.6227	\$53,298
2017	\$74,845	0.5820	\$43,561
2018	\$64,555	0.5439	\$35,113
2019	\$56,453	0.5083	\$28,698
2020	\$64,138	0.4751	\$30,471
2021	\$63,147	0.4440	\$28,038
2022	\$62,904	0.4150	\$26,103
2023	\$59,074	0.3878	\$22,910
2024	\$54,896	0.3624	\$19,897
2025	\$52,997	0.3387	\$17,952

⁹ Flight Standards provides this automated tool in order to assist aircraft owners, operators, and avionics shops with the validation of the performance of the ADS-B Out equipment installed on aircraft. Public ADS-B Performance Reports (PAPR) may be requested for aircraft operations that were detected within FAA ADS-B Coverage areas. See <https://adsbperformance.faa.gov/PAPRRequest.aspx>

2026	\$50,462	0.3166	\$15,975
2027	\$49,736	0.2959	\$14,715
2028	\$49,736	0.2765	\$13,753
2029	\$49,736	0.2584	\$12,853
2030	\$49,736	0.2415	\$12,012
2031	\$49,736	0.2257	\$11,226
2032	\$49,736	0.2109	\$10,492
2033	\$49,736	0.1971	\$9,805
2034	\$49,736	0.1842	\$9,164
2035	\$49,736	0.1722	\$8,564
Total (\$K)	\$1,956,684*		\$1,091,582

Table 2

- Presented in 2009 dollars to be consistent with prior submittals.

15. Explain the reasons for any program changes or adjustments.

Information Collections (ICs) have been broken out to reflect those aircraft currently equipped, "existing," based on May 1, 2020 FAA equipage (good install) monitoring and aircraft detected by FAA ADS-B Network; and, those aircraft numbers projected by FAA that may be installing, "new," ADS-B equipment annually. New equipage projection, 19,000 annually, based on estimated 57,000 aircraft General Aviation aircraft still not equipped with ADS-B Out avionics.

Since last submission ADS-B Out has been mandated. As of January 2, 2020, when operating in the airspace designated in [14 CFR § 91.225\(a\) and \(d\)](#), operators must be equipped with ADS-B Out avionics that meet the performance requirements of [14 CFR § 91.227](#).

As of January 2, 2020, ADS-B is the preferred surveillance method for the control of air traffic across the National Airspace System (NAS). ADS-B supports the aircraft surveillance needs of the FAA by requiring avionics equipment that meet the performance requirements of 14 CFR § 91.227 and continuously transmit aircraft information to be received by the FAA, via automation, for use in providing air traffic surveillance services.

Since the rule went into effect, there has not been any changes or adjustments to the program.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

There is no current plan for publication or tabulation – this is a continuing program within the FAA. ADS-B is used for ATC.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

Not applicable - no such approval is being sought.

18. Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

Not applicable - there are no exceptions.