



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

**ORDER
5010.4A**

Effective Date:
11/30/15

SUBJ: Airport Data and Information Management

This order prescribes requirements, delegates authority, assigns responsibility, and provides guidance for assuring compliance with the provisions of the Airport Data and Information Management program. This directive defines the roles and responsibilities of Federal Aviation Administration (FAA) personnel in the collection, management, processing, and handling of data describing the physical infrastructure, characteristics, services and operational environment of the airport.

A handwritten signature in black ink, appearing to read "Michael P. Huerta", with a circled number "1" at the end.

Michael P. Huerta
Administrator

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Chapter 1. General Information about Airport Data Management

1. Purpose of this Order. The intent of this Order is to align the Office of Airports (ARP), the Air Traffic Organization (ATO), and the Office of Aviation Safety (AVS) with the Master Data Management concept and Enterprise Architecture of the FAA. This Order is complementary to Advisory Circular (AC) 150/5300-19, Airport Data and Information Program, guiding industry in the management of data describing the physical infrastructure, characteristics, and services of airports.

2. Who this Order Affects. The use of these guidelines is mandatory for the collection and management of data supporting airport operations, to include, but not limited to:

- a. Those funded under the AIP or PFC program;
- b. Those certificated under 14 Code of Federal Regulations (CFR) part 139;
- c. Data necessary to meet the statutory submissions requirements of:
 - (1) 14 CFR part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace,
 - (2) 14 CFR part 97, Standard Instrument Procedures,
 - (3) 14 CFR part 150, Airport Noise Compatibility Planning, and
 - (4) 14 CFR part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports;
- d. All FAA-sponsored construction including navigational aids and supporting infrastructure;
- e. All FAA-sponsored and approved Instrument Approach and Departure Procedures (public and private); and
- f. The physical location of airport Navigational Aids (NAVAIDs).

3. Where Can I Find This Order. You can find this order on the Directives Management System (DMS) website: http://www.faa.gov/regulations_policies/orders_notices/

4. Cancellation. This cancels the following directive: FAA Order 5010.4, Airport Safety Data Program, dated January 27, 1981.

5. Principal Changes. This Order defines the stewardship roles and responsibilities of FAA organizations in the collection and management of airport data. It describes the Airport Data and Information Program within the FAA as a geospatial digital data program, and defines the standards and recommended practices for the development and management of a comprehensive, exchangeable, and interoperable repository of airport data. Lastly, it establishes a Stewardship Community of Practice for Airport Data and defines the primary and secondary membership of the Stewardship Community.

6. Distribution. This directive is distributed from headquarters to the subordinate staff offices and field locations of ARP, ATO, and AVS.

Chapter 2. Terms and Definitions

The following terms define the principal actions in the capture, certification, and accessibility of airport data:

- 1. Authoritative Source** is the designated repository for authoritative data or information provided by the steward.
 - a.** The application used to populate the authoritative source for airport data describing the physical infrastructure, characteristics, services, and operational environment of the nation's airports is the Airports Geographic Information System (Airports GIS).
 - b.** The application used to populate the authoritative source for planning data and information, including financial information relating to grants or the Passenger Facility Charge (PFC) program is the System of Airports Reporting II (SOAR II).
- 2. Custodian** is the organization designated as the party responsible for the integrity of data that has been transformed or copied for a business need. The designated organization is accountable for the proper handling of the resource they receive upholding any policies or regulations governing its use, in accordance with the agreements made with that authoritative source. When the steward is external to the FAA, the custodians will audit or check the quality of the data prior to making it available in the authoritative source. In this case, custodians will work with external stewards to make any necessary corrections.
 - a.** The Office of Airport Planning and Programming (APP-1), or its designated representative(s), is custodian for data relating to the planning or environmental activities of airports. This data usually originates from the National Plan of Integrated Airport Systems (NPIAS) and includes information products derived from ARP business processes or from planning data about the airport such as data within the SOAR II and electronic Airport Layout Plans (eALP).
 - b.** The Office of Airport Safety and Standards (AAS-1), or its designated representative(s), is custodian for airport data relating to airport safety, certification, and airport approach airspace protection and obstruction criteria. This includes data describing the physical infrastructure, characteristics, services, and operational environment of the nation's airports. When an airport is not within the NPIAS, stewardship of the planning and environmental data relating to the airport's approach airspace and obstruction limitations is the responsibility of AAS-1 or its designated representative(s).
 - c.** ATO, Aeronautical Information Services Directorate (AJV-5), is custodian for airport data as part of the aeronautical information solution of the FAA.
- 3. Master Data Management** is a set of processes and principles that consistently define and manage the core data entities of an organization (which may include reference data). The objective is to provide processes for collecting, aggregating, matching, consolidating, assuring quality, persisting, and distributing such data throughout an organization to ensure consistency and control in ongoing maintenance and application software use of this information.

4. Site Number is an eight digit sequential number assigned to the airport according to the Associated City and State. It is used primarily to perform computer searches such as identifying all heliports. The site number has a one-letter suffix identifying the primary use of the airport. The suffixes identifying the primary use of the airport are:

A = Airport

B = Balloonport

C = Seaplane Base

G = Gliderport

H = Heliport

U = Ultralight Flightpark

Because of the number of airports in the system, site numbers are reused when the number is not currently assigned to an active airport. When a new or proposed location is recommended for inclusion in the NPIAS, Airports GIS will assign a site number for the airport as long as the airport proposal is included in the subsequent NPIAS or until the selection of a site for the construction of a new airport is complete. When a proposed public use airport receives a favorable airspace determination, Airports GIS will assign the site number to the airport. If notice of a new airport or notice of one not previously reported is received, information on the new airport will be gathered and Airports GIS assigns a site number. When a previously abandoned airport is “reactivated,” Airports GIS will attempt to reassign the same site number to the airport. If the previously assigned number is currently assigned to another airport, Airports GIS will assign the airport a new site number. Airports GIS assigns site numbers to all military airports who do not have one when the appropriate information regarding the military airport is input into Airports GIS.

a. Change in the Associated City. Since Airports GIS uses the associated city to make site number assignments, any change in the airport’s associated city requires a new site number. Requesting changes to the associated city in Airports GIS will generate a new site number for the airport once you request the change and provide the appropriate documentation.

b. Site Number Cancellation. Due to the ever-increasing number of airports in the nation, it is not feasible to retain site numbers for locations indefinitely. Airports GIS will, without notice or intervention by a user, cancel site numbers meeting any of the following criteria:

(1) Except for airports with Federal agreements, when an airport is abandoned for three years or more.

(2) When a proposed airport location recommended in the NPIAS is deleted.

(3) When a “reserved” site number assigned for development is cancelled.

(4) At an airport where there is a change in associated city.

(5) When a site number is erroneously assigned to a duplicate record.

5. Steward is the designated organization that originates and is accountable for quality and timeliness of data and information.

a. AAS-1 is the steward for airport data describing the physical infrastructure, characteristics, services, and operational environment of the nation's airports. Because the true steward of an airport's data is external to the FAA, AAS-1 assumes the role of steward of this data for the FAA.

b. APP-1 is the steward for the management of an airport's planning, environmental and financial data with respect to the Airport Improvement Program (AIP) or PFC program.

6. Stewardship Community of Practice (SCoP) is a cross-organizational set of subject matter experts (SMEs) responsible and accountable for the development and management of the requirements for a set of data/information within a subject area defined in the FAA (e.g., National Airspace System (NAS) based infrastructure information). The requirements address the attributes and accuracy required to support the "AS IS" and "TO BE" defined business processes. The SCoP also maintains internal and external agreements for data exchange. The SCoP primarily takes on strategic activities, but these activities require the support of SMEs, and its outputs have direct impact on both tactical and operational level activities. The SMEs conducting the strategic level activities of the SCoP not only help form the future vision for the data management structures and requirements, but also help ensure a viable plan for transitioning from the "AS IS" to the future "TO BE" vision.

a. The activities of the SCoP fall into four general areas:

(1) Requirements development – The SCoP develops the data and information requirements within their subject area(s). The SCoP performs the following requirements activities for all data within its subject area by:

(a) Establishing, documenting, and maintaining data/information requirements.

(b) Establishing the requirements for data sensitivity and security levels.

(c) Establishing, documenting, and maintaining the requirements for the "AS IS" and "TO BE" data/information architecture.

(d) Analyzing and responding to information/data change requests to support new business requirements.

(e) Recommending changes to processes to improve delivery of data/information.

(2) Transition planning – Once a direction is set for additions or changes to the data architecture and processes, transition to the new state is planned. As a cross-organizational body of SMEs, the SCoP is the key to the development of detailed, successful transition planning. The SCoP:

(a) Develops a high-level transition plan to achieve future data architecture across multiple stakeholders.

(b) Coordinates and synchronizes actions/decisions with all levels as appropriate.

(3) Implements interpretation of policy development and training –The crafting and implementing of policies are from an executive level. Departments often need to interpret policies before implementing them. This process can require departments to develop, carefully coordinate, and plan low-level policies they can implement throughout the stewardship program. Policies affecting data/information span across lines of business (LOBs). This requires the SCoP to interpret and implement the policies for data/information items. In addition, the SCoP must develop and coordinate training programs for the stewardship program across the enterprise. The SCoP develops training curricula and materials and makes sure organizations performing the various stewardship roles are current in their training.

(4) Manages Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), and Service Level Agreement (SLA) requests – Data sharing agreements (that include data quality requirements) are a vital part of the FAA enterprise. The SCoP makes sure these requests are valid, and that data/information requests do not cross security boundaries. The stewards of the data/information conduct the detailed development of these agreements, but the SCoP maintains the data sharing agreements for reference.

7. Technical Steward is the designated person or organization responsible for the design and implementation of the infrastructure (e.g., data, applications, or technology).

a. AAS-1 is the Technical Steward for:

(1) Airports GIS

(2) Certification Compliance Management Information System (CCMIS)

(3) General Aviation Wildlife Survey

b. APP-1 is the Technical Steward for:

(1) SOAR II

(2) National Based Aircraft Inventory Program

Chapter 3. Roles and Responsibilities.

The FAA Order 1375.1, Information/Data Management, defines the general stewardship roles and responsibilities. The following paragraphs define additional specific responsibilities regarding the management of airport data.

1. ARP-1 is responsible for ensuring that its subordinate staff offices and field locations carry out the responsibilities as indicated in the following subparagraphs:

a. AAS-1 is responsible for:

(1) Providing and developing the specifications and requirements ensuring the quality of airport data describing the physical infrastructure, characteristics, services, and operational environment of the nation's airports within appropriate guidance.

(2) Establishing national policy, business rules, and guidance regarding the collection and maintenance of data describing the physical infrastructure, characteristics, services, and operational environment of the airport.

(3) Providing stewardship and custodianship for planning and environmental data and information for airports not within the NPIAS consistent with their responsibility for airport airspace approach protection and obstruction criteria as defined in the FAA Order 1100.2, Organization – FAA Headquarters.

(4) Developing and providing the authoritative sources for airport data.

(5) Ensuring the validation, verification, quality, and timeliness of airport data including defining the standards and processes for independent validation and verification of the data or information.

(6) Approving, coordinating, and managing program requirements ensuring international and industry harmonization.

(7) Providing and maintaining a means for users to ask questions or make comments relating to the program or its associated system(s).

(8) Collaborating with the appropriate FAA LOBs and staff offices to ensure the development, maintenance and coordination of an enterprise-wide data architecture that is compliant with the FAA Enterprise Architecture, describing the physical infrastructure, characteristics, services and operational environment of the nation's airports meeting the needs of internal and external customers.

(9) Ensuring systems support the sharing of information through the FAA System Wide Information Management (SWIM) program.

(10) Ensuring systems protect the information and limit access to authorized users only.

(11) Ensuring the archiving of airport historical data from the Airport Safety Data Program as defined in this Order and supporting forms.

(12) Leading the development of training programs and information supporting the use of Airports GIS as the FAA authoritative source of airport data.

b. APP-1 is responsible for:

(1) Fulfilling its role as steward for airport planning, financial, and environmental domains of the airport system.

(2) Disseminating information about the Airport Data and Information Program.

(3) Leading the development and dissemination of information to individual Airports and States regarding their role as Stewards.

(4) Developing, monitoring, and reporting the metrics regarding airport projects and data to ARP, Congress, and the public.

(5) Disseminating information to and collaborating with industry stakeholders regarding airport data.

(6) Updating its guidance and policies as necessary to comply with this Order.

(7) Ensuring management of SOAR data within the FAA Enterprise Architecture.

c. Airport Compliance Office (ACO-1) is responsible for updating its guidance and policies as necessary to comply with this Order.

d. Regional and District Airports Offices are responsible for:

(1) Advising individual States and airports about their role in the collection and management of airport data including the importance of keeping their airport data current within the appropriate FAA authoritative source.

(2) Validating that the airport data within the FAA aeronautical information and flight information publications is current and accurate when inspections are performed on public-use airports in the United States and its territories.

(a) Advising the appropriate airport officials of necessary changes to the airport's data according to inspection findings.

(b) Ensuring airport officials update data discrepancies within the authoritative source in a timely manner.

(c) Informing the airport owner/operator to initiate the appropriate Notice to Airman (NOTAM) action for noted discrepancies of published data.

(3) Ensuring the use of appropriately validated and verified data in all studies, planning, design, and inspection activities within their area of responsibility.

(4) Ensuring submission of data regarding actual or proposed changes to the physical airport environment and services to the FAA authoritative source prior to closing AIP grants or PFC programs.

(5) Obtaining accurate, adequate, and timely airport information through the physical inspection of:

(a) All civil public use airports certificated under Title 14 CFR part 139, Certification of Airports.

(b) Selected military airports permitting civilian use of the civil portion of the airport certificated under 14 CFR part 139.

(6) Soliciting data from all newly reported or newly constructed private-use airports through the use of the Airport Data and Information Program.

(7) Reviewing airport inspection reports for newly established non-part 139 locations submitted through the Airport Data and Information Program.

(8) Requesting site numbers from the Airport Data and Information Program for all proposed facilities. This includes airports for future inclusion in the NPIAS.

(9) Ensuring Regional Airports Division procedures supporting the Airport Data and Information Program are consistent with ARP National programs and policies. For the purpose of this Order, ARP National programs and policies should function well with ATO and AVS programs.

(10) Validating discrepancies in data reported by other FAA LOBs, staff offices, or the Airport Data and Information Program with the sponsor or airport authority.

(11) Reviewing any change in the official airport name and including supporting documentation submitted by the airport to the Airport Data and Information Program.

(12) Reviewing any change in the associated city submitted by the airport to the Airport Data and Information Program.

(13) Validating the reasonableness of non-safety critical data submitted by State and contractor personnel to the Airport Data and Information Program.

(14) Initiating the coordination of airspace studies of airport proposals, conducting the necessary circularization, consolidating and resolving comments, and developing and forwarding the FAA determination to the airport sponsor/proponent.

(15) Where applicable, forwarding documents about potential noise problems to the airport proponent/sponsor for resolution.

(16) Assigning a non-rulemaking airport (NRA) aeronautical study number to each airport case according to FAA Order JO 7400.2, Procedures for Handling Airspace Matters.

2. ATO and its associate subordinate staff offices and field locations carry out the responsibilities as indicated in the following subparagraphs.

a. AJV-5 is responsible for:

(1) Integrating appropriate airport data from the FAA authoritative source into the FAA aeronautical information solution.

(2) Providing services and systems necessary to meet its responsibilities as custodian of airport data and official release point of all aeronautical information.

(3) Ensuring the approval and registration of all systems for managing or sharing aeronautical information containing data about the physical airport infrastructure, characteristics, services, and operational environment with the Airport Data and Information SCoP.

(4) Defining and maintaining data integrity processes supporting the integration of data from the authoritative source into its systems prior to use or distribution.

(5) Verifying and disseminating aeronautical information and data.

(6) Releasing aeronautical information and data internally for flight information publication, aeronautical charts, and navigation databases.

(7) Disseminating aeronautical information and data for use by charting and publication entities of other government agencies and private industry.

b. Technical Operations:

(1) Ensuring the collection, maintenance, and sharing of data on all the FAA-installed, managed, and maintained systems supporting airport operations with the FAA authoritative source according to the format and accuracy standards of the Steward.

(2) Ensuring the planning, submission, and coordination of data for all proposed construction activities supporting FAA requirements on or near an airport.

(3) Ensuring the identification, maintenance, and sharing of data on all underground utilities on airports supporting FAA-installed, owned, and managed navigational aids to the airport data authoritative source in the appropriate format.

c. AVS, its subordinate staff offices, and field locations are responsible for:

(1) Ensuring their guidance requires compliance with the standards and recommended practices of the Steward regarding airport data describing the physical airport infrastructure, characteristics and services of an airport.

(2) Encouraging operators and owners of heliports, especially those serving the public good (such as hospital heliports), to participate in this program.

Chapter 4. Airport Inspections

Though it is the responsibility of the airport operator to manage the information describing the physical infrastructure and services of its airport, the FAA, State, or contractor personnel perform standardization inspections of all public use airports in the United States and its territories as part of the Airport Data and Information Program.

- 1. Purpose of Inspection.** The purpose of an inspection is to ensure data on public use landing facilities is current and provides the information necessary for flight planning and operations.
- 2. Inspectors.** The regional Airports Certification Safety Inspectors (ACSI) conduct the airport inspections for all part 139 certificated airports. Authorized regional Airports, State, or contractor personnel accomplish the inspection on other public use and certain private use airports. It is the responsibility of the local Flight Standards District Office (FSDO) to inspect heliports upon activation.

3. Scheduling and Control of Inspections

a. If possible, before conducting an airport inspection, the airport inspector contacts airport management or a local person(s) closely associated with the airport (i.e., the chairman of the airport board, city official, etc.). Inspectors generally request someone familiar with the operations of the airport be available to discuss inspection findings. This contact can be either in person, by e-mail, letter, or telephone.

b. Inspected periodically by FAA personnel

- (1) Air carrier airports certificated under part 139
- (2) All other commuter-served airports, obligated NPIAS commuter and reliever airports
- (3) Non-obligated NPIAS commuter and reliever airports

c. Inspected annually to triennially by FAA, State, or contractor personnel

- (1) General aviation obligated airports
- (2) General aviation NPIAS airports
- (3) All other general aviation airports

Unique situations may dictate inspection of certain civil private use airports, such as those airports served exclusively by a commuter. The regional Airports Division is responsible for assigning an appropriate inspection priority based on the individual airport's use.

4. Inspection Activity. During the inspection of an airport, inspectors will use the latest information in Airports GIS to validate or identify data describing the physical infrastructure and services of the airport requiring a change. If the inspector finds a discrepancy or difference between the published information and their observations, the inspector will discuss the item

with the responsible airport official or designated representative. The physical inspection of an airport presents an opportunity to foster aviation safety and development; thus, the inspector must use a cooperative and thorough approach in the discussion of items with local contacts. Upon completion of the inspection, the inspector will enter inspection findings into the Airport Inspection module of Airports GIS. This module provides the inspector tools to note necessary changes to the airport's data, note the physical inspection of the airport, and note whether the results of the inspection of the airport represents actual conditions at the airport on the date of inspection. Once the inspector identifies the necessary changes, the system will require the airport official or authorized representative to certify the change. If the inspection results require an update to the airports data, the airport operator is responsible for signing into Airports GIS to make the necessary changes and provide any supporting documentation within 45 days from the date of the inspection. Airports GIS will tie these changes to the inspection module and annotate completion of the necessary changes.

5. Reporting Unsafe Conditions

a. Inspectors look for and report all conditions on the airport with the potential to present a hazard to safe operations. Examples of these conditions include, but are not limited to, the following:

- (1) Unmarked obstructions
- (2) Deteriorating or cracked runways or taxiways
- (3) Stored materials
- (4) Parked aircraft near runways or taxiways
- (5) Landfills and unlicensed garbage dumps with the potential to attract wildlife
- (6) Objects in the safety areas
- (7) Other potential safety hazards on or near the runway(s)
- (8) Uneven or soft grounds and areas of ponding or inadequate drainage

b. The inspector must identify and discuss these unsafe airport conditions with the airport operator; these conditions must be reported and included in the Airport/Facility Directory for use by the flying public until rectified. In addition, the inspector must discuss the airport operator's responsibility to promptly notify airmen of any condition affecting future aeronautical use of the airport by issuing a Notice to Airmen (NOTAM) through the local Flight Service Station (FSS).

6. Additional Inspections. Between annual inspections, regional Airports personnel may conduct a special inspection, such as at the completion of a construction project. The inspector may decide to complete a full inspection for the airport. If a full inspection is not accomplished and only certain items are validated, the inspector should not change the date of last inspection. The inspector should submit the date of the additional inspection as "additional information" within the Airports GIS inspection module.

Chapter 5. Data Verification Objectives and Priority

1. The objectives of the Airport Data Management program are to:

a. Define the standards and recommended practices for the development and management of a comprehensive, exchangeable, and interoperable repository of airport data.

b. Provide accurate, independently validated and verified data describing the physical infrastructure, characteristics, and services of airports meeting the data quality and integrity requirements of the FAA including but not limited to:

(1) Providing resources to the public to meet the statutory requirements of 14 CFR parts 77, 139, 150, and 157.

(2) Providing resources to access, review, comment, and mark up the eALP.

(3) Performing NRA activities and analyses.

(4) Coordinating overall development plans of the AIP and PFC programs.

(5) Depicting the development planning and construction phasing of airport development projects by the FAA or airport.

(6) Coordinating and cataloging environmental findings/reports and noise contours, and providing cultural resource reports and maps.

(7) Coordinating and cataloging land use data and depicting the airport environment overlays by jurisdiction.

(8) Appropriately and securely sharing information about the physical infrastructure of airports with authorized users on a need-to-know basis.

c. Provide physical airport environment data and information satisfying the needs of the user community.

d. Provide a singularly managed data asset by eliminating redundant data collection, maintenance, and dissemination processes while supporting the internal and external needs of airport planning, design, construction, inspection, and analysis.

2. **Data Verification Priority.** The following matrix describes the prioritization of data for verification. The matrix has eight levels and describes in general terms the elements fitting in each level.

Priority	Description
1	Data submissions to correct a known safety deficiency and not simply to comply with new criteria.
2	Data submissions for new or relocated airport infrastructure elements such as runway changes or NAVAIDs used in aircraft operations.
3	Data submissions supporting the elimination or reduction of a Modification of Standards, other FAA criteria waiver, or a non-standard condition such as improving a runway safety area.
4	Data submissions needed to complete a study for or about an airport such as an NRA or other aeronautical study.
5	Data submissions supporting the testing or implementation of an FAA National initiative such as eALPs.
6	Data submissions describing the design or planning of a proposed change to the airport or instrument flight procedures other than national initiatives.
7	Data submissions providing other benefits to the airport such as compliance with new criteria, improved flow, more efficient routing, and reduced communications.
8	Data submissions of other data at public or private use airports.

Chapter 6. Related Websites and Publications.

Use the following websites and publications in the administration of this program:

1. FAA Airports GIS Program: <https://airports-gis.faa.gov/airportgis/>

a. The Airports GIS Program defines the FAA process for the collection and maintenance of airport and aeronautical data to meet the demands of the Next Generation NAS. Under this program, the airport is a key link in the airport and aeronautical information chain. Through this single web-based portal, the airport can fulfill its roles as External Steward and meet its statutory data requirements. This portal provides the resources necessary for the collection and maintenance of data and information regarding the physical airport infrastructure, reducing the time for approval actions, studies or analyses, and processing/publication supporting changes to airport data.

(1) Airport Data Standards:

(a) AC 150/5300-16, General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5300-16. This AC explains the specifications for establishing geodetic control on or near an airport. It also describes how to submit the information to the National Geodetic Survey (NGS) for approval and inclusion in the National Spatial Reference System (NSRS) in support of aeronautical information surveys.

(b) AC 150/5300-17, Standards for Using Remote Sensing Technologies in Airport Surveys: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5300-17. This AC provides the specifications for airport imagery acquisition and explains how to submit the imagery for review and approval in support of aeronautical information and airport engineering surveys.

(c) AC 150/5300-18, Survey and Data Standards for Submission of Aeronautical Data using Airports GIS: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5300-18. The primary purpose of this AC is to list the requirements for data collection conducted at airports in support of Airports GIS. This AC provides the specifications for the collection of airport data through field and office methodologies in support of the FAA. It also explains how to submit data to the FAA, who will forward the safety critical data to another organization for Independent Verification and Validation (IV&V).

(d) AC 150/5300-19, Airport Data and Information Program: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5300-19. This advisory circular provides general guidance and information for airport authorities in the collection and management of data describing the physical infrastructure, characteristics, and services of their airport. It also describes how and when airports are inspected to ensure conformance with standards and applicability and currency of the

published information. The FAA uses the data collected and maintained by the Airport Data and Information Program as source material for its aeronautical information database. It disseminates aviation information from the database to the public; uses it to prepare government and private industry aeronautical charts and related flight information publications as required by 49 U.S.C. 44721, Aeronautical charts and related products and services, and 49 U.S.C. 47130, Airport safety data collection; and refers to it when planning and programming various programs within the FAA.

2. Airport Design and Construction: The following regulations and guidance contained in Title 14 of the CFR relate to the FAA standards for the design, construction, and maintenance of an airport within the United States.

a. These Statutory Requirements can be found on the Electronic Code of Federal Regulations Website: <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>

(1) 14 CFR part 77. This part establishes standards for determining obstructions in navigable airspace; sets forth the requirements for notice to the Administrator of certain proposed construction or alteration; provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace; provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and provides for establishing antenna farm areas.

(2) 14 CFR part 139. This part prescribes rules governing the certification and operation of airports in any State of the United States, the District of Columbia, or any territory or possession of the United States serving any scheduled passenger-carrying operations of an air carrier operating aircraft designed for more than nine passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority and unscheduled passenger-carrying operations of an air carrier operating aircraft designed for at least 31 passenger seats, as determined by the aircraft type certificate issued by a competent civil aviation authority. This part applies to those portions of a joint-use or shared-use airport that are within the authority of a person serving passenger-carrying operations defined this regulation.

(3) 14 CFR part 150. This part prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. It prescribes single systems for:

(a) measuring noise at airports and surrounding areas that generally provides a highly reliable relationship between projected noise exposure and surveyed reaction of people to noise; and

(b) determining exposure of individuals to noise which results from the operations of an airport. This part also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. It provides technical assistance to airport operators, in conjunction with other local, State, and Federal authorities, to prepare and execute appropriate noise compatibility planning and implementation programs.

(4) 14 CFR part 157. This part applies to persons proposing to construct, alter, activate, or deactivate a civil or joint-use (civil/military) airport or to alter the status or use of such an airport.

b. Related Standards: <http://www.faa.gov/airports/engineering/>

(1) AC 150/5370-10, Standards for Specifying Construction of Airports: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5370-10. This AC contains standards relating to materials and methods used for construction on airports. Items covered in this AC include general provisions, earthwork, flexible base courses, rigid base courses, flexible surface courses, rigid pavement, fencing, drainage, turf, and lighting installation.

(2) AC 150/5300-13, Airport Design: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.current/documentNumber/150_5300-13. This AC contains the FAA's standards and recommendations for airport design.

3. Other Related Orders: http://www.faa.gov/regulations_policies/orders_notices/

a. JO 7400.2, Procedures for Handling Airspace Matters. This directive applies to all regional, service area, and field organizational elements involved in rulemaking and non-rulemaking actions associated with airspace allocation and utilization, obstruction evaluation, obstruction marking and lighting, Airport Airspace Analysis (AAA), and the management of air NAVAIDs. While this Order provides procedures for handling airspace matters, additional procedures and criteria to supplement those contained herein may be set forth in other directives and should be consulted.

b. Order 6750.16, Siting Criteria for Instrument Landing Systems. This Order provides guidance to engineering personnel engaged in the siting of FAA instrument landing systems (ILS).

c. JO 6850.2, Visual Guidance Lighting Systems. This Order contains installation Criteria for all Visual Guidance Lighting Systems installed under the Facilities and Equipment (F&E) program.

d. FAA Order 8260.19 Flight Procedures and Airspace. This Order provides guidance to all FAA personnel for the administration and accomplishment of the FAA Flight Procedures and Airspace Program.

4. Aeronautical Information Services (AIS): Related standards: <http://nfdc.faa.gov/>
The website provides access to the resources of the Aeronautical Information Program of the FAA. AIS meets air transportation's demand for increased capacity, efficiency and predictability in the airspace, routes, and airports of the NAS while ensuring that safety factors and environmental regulations are satisfied.

Appendix A. Charter for the Airport Stewardship Community of Practice (ASCoP)

1. Introduction.

a. Purpose: This charter establishes the FAA Airport Stewardship Community of Practice (ASCoP) as the body responsible for creating and administering the processes needed to promote and sustain successful data management practices for airport data and information within the FAA's emerging net-centric environment. The purpose of the ASCoP is to provide a framework to oversee and resolve issues relating to airport data and information within the FAA architecture and services.

b. Background: FAA Order 1375.1 establishes the requirement for chartering a Stewardship Community of Practice within data and information domains. This charter tasks the stewardship community of practice with responsibility to develop a common understanding and shared vocabulary for exchange of the community of practice's data and information to accomplish shared missions, goals, interests and business processes of the FAA. Stakeholders can include, but are not limited to stewards, architects, business subject matter experts and other involved parties. As a cross-organizational set of SMEs, the ASCoP:

(1) Is responsible and accountable for the development and management of the requirements for a set of data/information within the airport domain of the FAA.

(2) Ensures the requirements address the attributes and accuracy required to support the "AS IS" and "TO BE" defined business processes of the FAA relating to an airport's physical infrastructure, characteristics, services, and operational environment.

(3) Maintains internal and external agreements for data exchange.

(4) Primarily takes on strategic activities, but these activities require the support of – and its outputs have direct impact on – both the tactical and operational levels. The SMEs conducting the strategic-level activities of the ASCoP include stewards, custodians, and technical stewards who know the detailed workings of the "AS IS" operation. Their input not only helps form the future vision for the data management structures and requirements but also helps ensure a viable plan for transitioning from the "AS IS" to the future vision.

c. Scope: The ASCoP charter includes oversight and management of all data within the domain across the FAA with particular emphasis on information to be exchanged across FAA processes. The community of practice will manage the data standards addressing information components (e.g., data elements and objects, data models and Extensible Markup Language (XML) schemas, and data standards registries) for information within its domain across the FAA organizations and with the FAA stakeholders. The community of practice will provide recommendations for the disposition of proposed data and information architectures and will direct its recommendations to the Enterprise Architecture Board and/or Architecture Review Board. The objective of data and information management is to build the essential framework necessary to effectively share the FAA's data resources and ensure the quality and security of the agency's data – it is not to control the data resources themselves. The framework is built upon a clear definition of data and information using standard metadata and metadata management

principles. Developing standard metadata is, in essence, detailing information specifications that, once reviewed and accepted, become the standard structures and definitions of data and information.

d. Authority: The Associate Administrator for Airports authorizes the community of practice according to FAA Order 1375.1. The community of practice provides oversight and will resolve issues relating to the data and information within the domain. The community of practice ensures domain data and information standardization including activities necessary to ensure the domain is correctly represented in appropriate FAA data and information architectures. The community of practice will review its activities periodically and recommend revisions of the charter to the Associate Administrator for Airports.

2. Membership in the ASCoP: The ASCoP is comprised of two types of members, permanent and secondary. Permanent members are those with direct statutory or regulatory responsibility for data within the domain. Secondary members are industry representatives or representatives of other FAA organizations with oversight responsibility (e.g., FAA Architecture Review Board) or who have peripheral interest in the data and information of the domain.

a. Permanent Members:

- (1) ARP
 - (a) AAS-1 – Chairperson
 - (b) APP-1
 - (c) ARP-10
- (2) AVS-1: Flight Procedures and Technologies (AFS-400)
- (3) ATO:
 - (a) Aeronautical Information Services (AJV-5)
 - (b) System Engineering (AJP-1)
 - (c) Terminal Services (AJT-1)
 - (d) NAS Enterprise Architect
 - (e) AIT, FAA Enterprise Architect

b. Secondary Members: The following groups or individuals may participate in the ASCoP:

- (1) ATO, Assistant Administrator for Information Services and Chief Information Officer (AIO), Enterprise Information Architect
- (2) Airport Consultants Council (ACC), industry representative

- (3) American Association of Airport Executives (AAAE), industry representative
- (4) Airports Council International (ACI), industry representative
- (5) Helicopter Association International (HAI), industry representative
- (6) National Association of State Aviation Officials (NASAO), industry representative
- (7) Commercial Data Providers, industry representatives

3. Roles and Responsibilities of the Community of Practice: Following are the roles and responsibilities of the ASCoP members regarding Airport Data and Information:

a. Implement operating procedures and any changes to the procedures of the FAA Architecture Review Board.

b. Provide oversight and resolve issues relating to the definition, standardization, and management of data within the Airport Data and Information domain.

c. Ensure the LOBs and staff offices implement and use the standardized vocabulary and data element definitions (including attribution) approved by the community of practice.

d. Provide subject matter expertise to the FAA Architecture Review Board to represent the FAA, review, and recommend approval of government, commercial and international data standards relating to the domain for use in the FAA.

e. Support the systems engineering disciplines around systems and information by identifying information needs including new information requirements, delivery shortfalls, and/or opportunities to deliver the information more cost effectively.

f. Establish, as needed, working groups to address specific information management issues relating to the domain. Working groups will be individually chartered through a Terms of Reference (ToR) process in which a draft ToR is created and submitted to the FAA Architecture Review Board for approval.

g. Communicate the activities, standards, and status of Airport Data and Information community of interest (COI) to FAA organizations, other government agencies, and appropriate national and international aviation bodies such as the International Civil Aviation Organization (ICAO), EUROCONTROL, and the RTCA, Inc.¹

4. Changes to the Charter: The community of practice will recommend changes to the Associate Administrator for Airports as necessary to ensure the roles and responsibilities of the

¹ RTCA, Inc. was founded in 1935 as Radio Technical Commission for Aeronautics. It has since officially adopted the business name of RTCA, Inc.

community of practice cover the domain. Presidential, legislative mandates or government-wide initiatives having a direct impact on the information and data management practices within the FAA may also require changes in the charter of the community of practice. The charter will be changed only with the approval of the Associate Administrator for Airports upon recommendation of the community of practice.

Appendix B. Glossary and Terms

Abandoned Airport: An airport permanently closed to aircraft operations which may be marked in accordance with current FAA standards for airport markings.

Airport: An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its building and facilities, if any.

Airport Data: Data describing the physical infrastructure, characteristics, and services of the nation's airports. It also includes statutory requirements for financial data reporting for airports within the NPIAS.

Airport Authority: The person or organization responsible for the operation of the airport. The airport authority could be a private or governmental organization. The term Airport Sponsor relates only to NPIAS airports and includes certain statutory and legal requirements.

Airport Management: Includes the airport owner, operator, or manager unless a specific distinction is made.

Approved Replicated Source: A designated duplicative repository linked to an authoritative source fulfilling a specific business purpose (e.g. data warehouse) electronically updated when the authoritative source is changed. The data or information replicated from the authoritative source is read only.

Characteristics: Attributes of data providing additional detail to the data.

Common Vocabulary: A list of terms that have been explicitly enumerated. This list is controlled by and is available from a controlled vocabulary registration authority. All terms in a controlled vocabulary should have an unambiguous, non-redundant definition.

Data: A representation of facts, concepts, or instructions in a formulated manner suitable for communication, interpretation, or processing by human or automated means. Data are the fundamental components of information.

Data Element: A basic unit of identifiable and definable information that occupies the space provided by fields in a record or blocks on a form. A data element has an identifying name and value or values for expressing specific facts.

Data Management: The function of managing data used in manual or automated information systems. It includes the activities of strategic data planning, data element standardization, and data synchronization (e.g., arranging data to indicate coincidence or coexistence, data quality assurance, and database development and maintenance).

Data Standardization: Process of requiring application of an approved, uniform definition and representation to a data element or entity.

Enterprise Architecture: The FAA Enterprise Architecture provides an explicit description of the current and desired relationships among business and management processes and information technologies within the FAA. The Enterprise Architecture consists of business process models, technical reference models, and systems models and is directly supported by the FAA Enterprise Data Architecture.

Heliport: An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters or other rotary wing type aircraft capable of vertical takeoff and landing profiles.

Information: Data organized and made available for a purpose.

Information Management: The process of leading planning, organizing, structuring, describing and monitoring of information throughout the life-cycle, including distribution of information to one or more audiences.

Information and Data Management Program: A comprehensive program responsible for the development of a set of policies, procedures, governance processes, and tools established to manage the FAA's information and data resources. It entails a global view of information and data management beyond organizational boundaries.

Information System: A discrete set of information resources, either in standalone or networked configurations, that is organized for the collection, processing, maintenance, transmission, and dissemination of information in accordance with defined procedures, whether automated or manual. Information systems are of two types:

- 1. General Support Systems:** Interconnected information resources that are under the same direct management control and share common functionality, e.g., telecommunications and networks.
- 2. Major Application Systems:** Systems that require special management attention because of their importance to the agency's mission; their high-maintenance, development, or operating costs; or their significant role in dealing with the agency's programs, finances, property, or other resources.

Integrity: The degree of assurance that data and its value have not been lost or altered since the data origination or authorized amendment.

Metadata: Includes information that describes the characteristics of data; data or information about data; and descriptive information about an organization's data activities, systems, and holdings.

National Airspace System (NAS) Operational Data: Data shared among NAS applications and specified in interface requirements documents and interface control documents that are managed by the NAS Configuration Control Board.

Ontology: A formal description (specification) of the concepts and relationships that can exist for an area of knowledge or domain. The intent is to define a common vocabulary or a shared

understanding of something that is important to a community of interest (COI), which is key to being able to share information in a service-oriented environment like SWIM. Ontologies derive their strength from the ability to describe and represent specific areas of knowledge such as weather, flight and flow, surveillance, track management, etc., providing insight into the meaning (semantics) and functionality of that domain information. This enables a COI like SWIM to make decisions on a data architecture, leading to the creation of semantic services – from simply assigning names to data elements in schemas or messages, or marking up (indexing) resource materials, to more sophisticated applications like publishing, querying and dynamic discovery, or performing multi-source association, correlation and fusion, etc.

Private-Use: Available for use by the owner only or by the owner and other persons authorized by the owner.

Private Use of Public Lands: The landing and takeoff area of the proposed airport is publicly owned and the proponent is a non-government entity, regardless of whether that landing and takeoff area is on land or on water and whether the controlling entity be local, State, or Federal Government.

Public-Use: Available for use by the general public without a requirement for prior approval of the owner or operator.

Services: Self-describing, self-contained, modular units of software application logic that provide defined business functionality. Services are consumable software services that typically include some combination of business logic and data. Services can be aggregated to establish a larger workflow or business transaction. Inherently, the architectural components of web services support messaging, service descriptions, registries, and loosely coupled interoperability.

Shareable Information: Shareable information consists of data that is not only capable of being shared but also eligible for sharing. Any data can be transmitted across interfaces but it is not always appropriate to do so due to privacy or security considerations. Therefore, shareable information must also be appropriate or eligible based on business qualification of the sensitivity data.

Standard Data Element: A data element that has been formally approved in accordance with the standardization procedures. Alternatively, standard data elements are data that have been coordinated through the standardization process and approved for use in information systems.

Taxonomy: A collection of controlled vocabulary terms organized into a hierarchical structure or categorization. Each term in a taxonomy is in one or more parent-child relationships to other terms in the taxonomy.

Technical Expert: For the purpose of this Order, a person responsible for the design and implementation of the infrastructures (information, systems, or technical) needed to support the stewards in ongoing business operations (e.g., architects, database administrators, security experts).

Validation: Ensures the data or information producer built the right product. The consumer performs validation testing of the data or information to ensure it fulfills its intended purpose

when placed in its intended environment. The validation process or tests vary according to the needs of the individual consumer. Data and information producers also perform validation testing to selected work products as well as to the end product and end-product components. Data producers should select work products for validation on the basis of which is the best predictor of how well the data and information will satisfy the intended purpose and user needs.

Verification: Ensures the data or information producer built the product right. Verification is confirmation through testing against another data source of equivalent or higher accuracy the data or information product meets the defined standards.

Appendix C. Authorities

The following related publications provide supplementary information about the information in this Order. This list is not exhaustive. Other Federal laws, regulations, and guidance not listed, such as executive orders, may apply.

Number	Federal Laws, Regulations, Guidance
1	Clinger-Cohen Act (formerly known as Information Technology Management Reform Act, Division E), (Pub. L. 104-106)
2	Executive Order 12906, Coordinating Geographic Data Acquisition and Access: The National Spatial Data Infrastructure (http://www.archives.gov/federal-register/executive-orders/pdf/12906.pdf)
3	<u>FAA Order 1280.1</u> , Protecting Personally Identifiable Information (PII) ISO 22745
4	<u>FAA Order 1370.82</u> , Information Systems Security Program
5	<u>FAA Order 1375.1</u> , Information/Data Management
6	<u>FAA Order 1600.1</u> , Personnel Security Program
7	<u>FAA Order 1600.38</u> , Employee and Other Internal Security Investigations
8	<u>FAA Order 1600.75</u> , Protecting Sensitive Unclassified Information (SUI)
9	<u>FAA Order 1800.66</u> , Configuration Management Policy
10	Federal Information Security Management Act of 2002, December 17, 2002 (Pub. L. 107-347) (http://csrc.nist.gov/drivers/documents/FISMA-final.pdf)
11	Federal Segment Architecture Methodology (FSAM)
12	Government Paperwork Elimination Act, Title XVII, (Pub.L. 105-277)
13	Government Paperwork Reduction Act, (Pub.L. 104-13), as amended, 44 U.S.C Chapter 31
14	Government Performance and Results Act, (Pub.L. 103-162)
15	<u>Office of Management and Budget (OMB) Circular A-130</u> , Management of Federal Information Resources, 61 FR 6428
16	<u>OMB Circular A-16</u> , Coordination of Geographic Information, and Related Spatial Data Activities

17	<u>OMB Memorandum M097-16</u> , Subject: Information Technology Architectures
18	Treasury and General Government Appropriations Act for Fiscal Year 2001, Section 515 (Pub. L. 106-554)
19	49 CFR part 1520, Protection of Sensitive Security Information