

# ***Community-Wide Information Sharing (CWIS) Task SA1-07***

## ***Subtask 2 Report***

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# 1. INTRODUCTION

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## 1.1 Purpose and Scope

ITT Corporation is conducting the CWIS (Community Wide Information Sharing) study for the Next Generation Air Transportation System (NextGen) Institute, in cooperation with the Joint Planning and Development Office (JPDO), to identify communities of interest (COI) of information sharing for NextGen.

The mission of NextGen is to increase the capacity, efficiency and safety of air transportation operations through meaningful integration and collaboration among stakeholders from the public and private sectors. As described in the NextGen Concept of Operations<sup>1</sup> (CONOPS), one of the main enabling concepts for this mission is the information sharing component known as net-centric infrastructure services, or net-centricity. It provides the foundation for robust, efficient, secure and timely transport of information to users, thus furnishing participants in planned and ad-hoc COIs across all phases of flight and contingency planning with a common awareness of overall constraints and the impacts of individual and system-wide decisions.

To achieve these benefits however, it is paramount that the adopted information sharing regimes providing the core net-centric functionality are appropriate for the Air Transportation System operational and user environment. This requires understanding of the available information sharing regimes and their applicability to various information sharing environments (e.g. publish and subscribe, database query, collaborative decision making, etc.), the identification of the potential user COI grouping and associated information content and service needs, and finally the definition of information sharing requirements regarding data transfer and security controls.

The JPDO Net Centric Working Group (NCWG) is designing a Net-Enabled Information Sharing (NEIS) environment for NextGen where various stakeholders, including government agencies, aviation operators, and third-parties will benefit from having access to information about the NAS (National Airspace System), airports, airlines, maintenance facilities and supporting services. The goal is to design an NEIS that maximizes availability of useful information without compromising legitimate national security, homeland security, and market competition concerns.

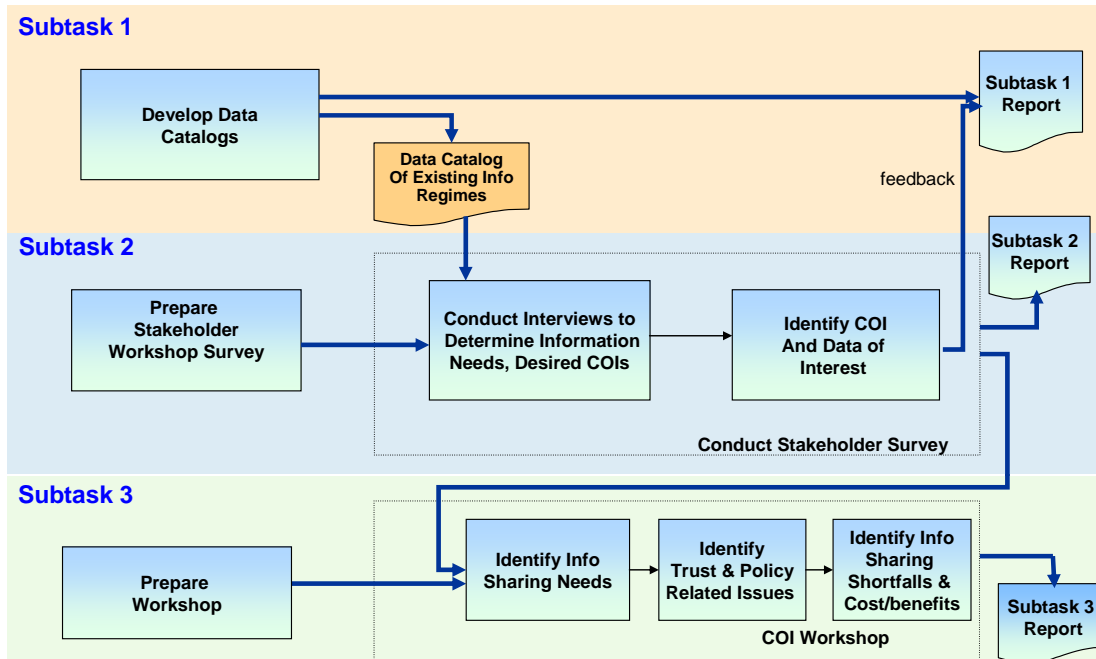
In support of this goal, the CWIS task includes three subtasks. The first subtask is the analysis and cataloging of current information sharing regimes (government only, private sector, and public-private ventures) that may be incorporated into the NextGen NEIS. To achieve this, an understanding of existing information and its providers and consumers is crucial. The second subtask is the identification of key COIs. A COI is “a collaborative group of users who must exchange information in pursuit of their shared

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<sup>1</sup> Concept of Operations for the Next Generation Air Transportation System, v2.0, JPDO report, June 2007

goals, interests, missions or business processes and who therefore must have shared vocabulary for the information they exchange”<sup>1</sup>. Stakeholders can address their valid need for data and list barriers/concerns to information sharing. As part of the COIs, stakeholders can provide their views and voices to influence policy makers. The third subtask is to further identify COI issues such as information scope, classification, security, and ownership.

The overall task flow of the CWIS task is shown in Figure 1-1.



*Figure 1-1: Overall CWIS Task Flow*

The data analysis of Subtask 1 focused on six key NextGen information sharing regimes: Airline Operations Centers, Airport Security, Aviation Environment Data, NAS Surveillance Data, NAS Aeronautical Information, and NAS Weather Data. The results were documented in CWIS Subtask 1 report.

This document describes the Subtask 2 activities - two surveys carried out, and the results. Survey results helped to identify ten COIs with associated data of interest and a list of stakeholders for each identified COI.

Subtask 3 results will be recorded in a separate document when the task is finished.

<sup>1</sup> DoD Data Strategy, DoD 8320.02-G, 12 Apr 2006

## 2. SUBTASK 2 ACTIVITIES

### 2.1 Subtask 2 Objectives and Approach

The goal of CWIS Subtask 2 is to identify five to ten likely civil NextGen NEIS COIs and to identify representative stakeholder organizations associated with the identified COIs. This was initially intended to be convened through a workshop of civil air transportation users and stakeholders. But due to the limited time availability of invited people of interest, it was decided by the NextGen CWIS task coordinators that the workshop would be supplanted with one-on-one survey interviews (via email or telephone) to obtain the needed information from identified stakeholders more efficiently.

The general approach of CWIS Subtask 2 consisted of three steps as presented in Figure 2-1. In the preparation step, JPDO documents, government documents and industrial publications were reviewed to help identify NextGen information regimes and draft COI segmentation criteria; and representative stakeholders were identified and invited to attend the survey interview. The stakeholders list and survey questions were reviewed by the NextGen Institute CWIS task coordinators. In Step 2 the first survey was conducted to determine the information needs and desired COIs. In Step 3, the first survey results were analyzed and a set of COIs were identified, then a more structured survey interview (second survey) was conducted to further refine COI associated data of interest, COI stakeholders and information sharing issues. This document records the recommended COIs, data of interest associated with each identified COIs, and stakeholders for each COI.

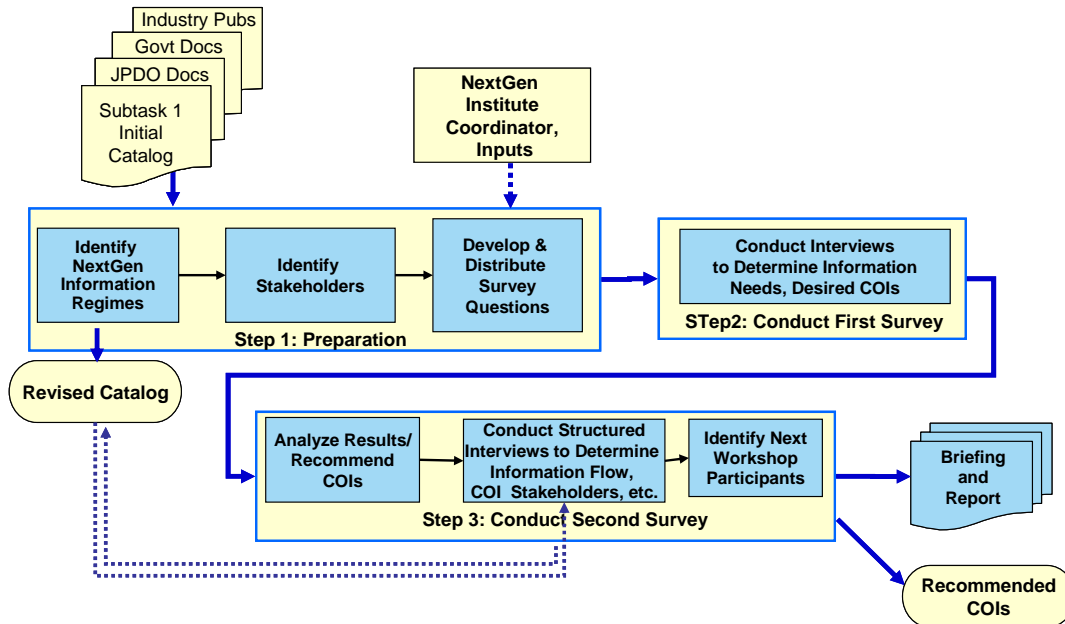


Figure 2-1 Subtask 2 Approach

## 2.2 Survey Participants

The mission of NextGen is to increase the capacity, efficiency and safety of air transportation operations through meaningful integration and collaboration among stakeholders from the public and private sectors. As described in the NextGen CONOPS, one of the main enabling concepts for this mission is the information sharing component known as net-centric infrastructure services, or net-centricity. It provides the foundation for robust, efficient, secure and timely transport of information to users, thus furnishing participants in planned and ad-hoc COIs across all phases of flight and contingency planning with a common awareness of overall constraints and the impacts of individual and system-wide decisions. The NextGen CONOPS document classifies NextGen stakeholders into different categories as shown in Table 2-1:

*Table 2-1 Stakeholder Categories from NextGen CONOPS*

<b>Stakeholder Name</b>	<b>Description</b>
<b>Airport Communities</b>	Cities and towns located in the vicinity of airports that have a vested interest in and are affected by the operation of the airport
<b>Airport Operators</b>	Organizations and people responsible for enabling passenger, flight, and cargo operations conducted within an airport with consideration for safety, efficiency, resource limitations, and local environmental issues
<b>Airport Tenants</b>	Organizations and people who offer services at an airport, such as fueling and maintenance services or catering services
<b>ANSPs</b>	Air Navigation Service Provider. Organizations and people engaged in the provision of ATM and air traffic control (ATC) services for flight operators for the purpose of safe and efficient flight operations. ATM responsibilities include communications, navigation, and surveillance (CNS); ATM facility planning, investment and implementation; procedure development and training; and ongoing system operation and maintenance of seamless CNS/ATM services. This category includes ANSP personnel and ANSP automation.
<b>Customers</b>	Individuals and organizations, including Government and military, using NextGen for personal or business transportation or to transport cargo
<b>Flight Operators</b>	Individuals and organizations responsible for planning and operating a flight within NextGen, including flight crews (on the aircraft or controlling it remotely) and FOC personnel. Includes personal, business, commercial aviation, and commercial organizations, as well as government and military organizations.
<b>Manufacturers</b>	Organizations and people who manufacture equipment for flight operators, ANSPs, security and defense providers, and so forth. Includes the manufacture of airframes, aircraft engines, avionics, and other aircraft systems and parts, as well as Decision Support Systems (DSSs) and other systems used in NextGen.
<b>Owners</b>	Organizations and people responsible for making investment decisions related to the development and implementation of NextGen and its associated capabilities
<b>Regulatory Authorities</b>	Organizations and people responsible for certain aspects of the overall performance of the aviation industry, including aviation safety, environmental effects, and international trade. Includes aviation safety regulators, certification authorities, standardization organizations, environmental regulators, and accident/incident authorities.
<b>Researchers</b>	Organizations and people engaged in conducting R&D activities that support the evolution of the air transportation system, including academia and government organizations
<b>Security and Defense Providers</b>	Organizations and people responsible for national and homeland defense, homeland security, law enforcement, information security, and physical and operational security of NextGen
<b>Weather Service Providers</b>	Organizations and people engaged in the provision of aviation weather information products

This subtask's effort in identifying the NextGen stakeholders to participate in the CWIS task surveys was based on the NextGen CONOPS stakeholder classification. At the time when the Subtask 2 was carried out, JPDO already had nine working group teams established to solve problems and make fact-based recommendations capable of being integrated into NextGen or changing the course of NextGen in critical ways. These nine working groups cover a large portion of the NextGen CONOPS stakeholder classifications and each working group has one government lead and one industry lead. Also, the JPDO Institute Management Council (IMC) is broadly representative of the aviation stakeholder community with sixteen members. Both JPDO working group leads and IMC members were identified as potential participants of CWIS Subtask 2 surveys. Two briefings with CWIS goals, plans and COI background information introduction were presented at the JPDO IMC member meeting in November 2007 and at the JPDO working group chairs meeting in January 2008. Due to the technical nature of the aviation information flows, IMC members showed little interest. The decision was then made by the NextGen Institute technical coordinator to include JPDO working group leads and other identified domain experts to participate in the Subtask 2 surveys.

The list of organizations represented by the survey participants is listed below:

ATA (Air Transport Association)  
Aviation Management Associates, Inc  
Booz Allen Hamilton  
DOT/Volpe Center, Environmental Measurement and Modeling  
FAA SWIM Program Office  
ITT Corp., ADS-B Program  
JPDO/Air Navigation Services WG Government lead  
JPDO/Airports working group industry lead  
JPDO/Security working group government lead  
Northwest Airlines

### 3. SURVEY RESULTS

#### 3.1 Overview

A COI is a collaborative group of users who must exchange information in pursuit of their shared goals, interest, missions, or business processes and who therefore must have a shared vocabulary for making information visible, accessible, and understandable<sup>1</sup>. A COI must stay focused on its defined mission. The purpose of the survey was not to establish NextGen COIs yet, but rather, to identify potential NextGen COIs, the first step toward establishing NextGen COIs. As the result of the two surveys/interviews conducted, 10 aviation COIs were identified by the survey participants, and a set of data of interest was associated with each COI. These ten COIs are:

1. Airport COI
2. Airline Operations Center (AOC) COI
3. Aviation Environment COI
4. Navigation COI
5. Operational Impact COI
6. Safety COI
7. Security COI
8. Surveillance COI
9. Traffic Management COI
10. Weather COI

More specifics about each of the COIs are described in the following sections.

##### 3.1.1 Airport COI

The Airport COI is a group of users interested in airport related information. The Airport COI data of interest identified as a result of the surveys are listed in Table 3-1. Airport COI stakeholders are listed in Table 3-2.

*Table 3-1 Data of Interest for the Airport COI*

No.	Data of Interest
1	Airport Security <ul style="list-style-type: none"> <li>• Airport emergency response plan</li> <li>• Airport contingency planning (non-emergency)</li> </ul>
2	Airport Safety Management System procedures
3	Airport certification (14 CFR Part 139)

<sup>1</sup> DoD COI Memo "DoD Net-Centric Data Strategy", May 9 2003

4	Airport Status Information: <ul style="list-style-type: none"> <li>• Airfield construction/closure plans</li> <li>• Airfield snow removal closure plans</li> <li>• Airport gate availability</li> <li>• Deicing facility status</li> <li>• Airport remote aircraft parking availability</li> <li>• Real time runway condition reports (e.g., active runway, braking actions)</li> <li>• Current airport delays</li> <li>• Real-time aircraft flight tracking data</li> <li>• Airport Rescue Fire Fighting (ARFF) status</li> <li>• Ramp operations, e.g., Ground Support Equipment availability and status</li> </ul>
5	Airport Emission and Noise

*Table 3-2 Airport COI Stakeholders*

No.	Stakeholders
1	Airport
2	Airlines (including Cargo)
3	General Aviation
4	FAA
5	TSA (Transportation Security Administration)
6	CBP (Customs and Border Protection)
7	Airport Tenants
8	Ramp Operators

### 3.1.2 AOC COI

The Airline Operations Center (AOC) COI is a group of users interested in AOC related information. The AOC COI data of interest identified as a result of the surveys are described in Table 3-3. AOC COI stakeholders are listed in Table 3-4.

*Table 3-3 Data of Interest for the AOC COI*

No.	Data of Interest
1	Aircraft information (much of this should be in the future flight object)
2	Data from airlines on changes due to various reasons <ul style="list-style-type: none"> <li>• Flight cancellations</li> <li>• Flight delays</li> <li>• Changes to departure</li> </ul>
3	Passenger related <ul style="list-style-type: none"> <li>• Passenger information</li> <li>• PNR (Passenger Name Record) data</li> </ul>

*Table 3-4 AOC Stakeholders*

No.	Stakeholders
1	Commercial airlines
2	Cargo

3	General Aviation
4	FBO (Fixed Base of Operation) (signature flight support)
5	Aircraft manufactures
6	Passengers
7	Aviation system users
9	Airport
10	FAA
11	NTSB (National Transportation Safety Board)
12	TSA (Transportation Security Administration)

### 3.1.3 Aviation Environment COI

The Aviation Environment COI is a group of users interested in Aviation Environment related information. The Aviation Environment COI data of interest identified as a result of the surveys are described in Table 3-5. Aviation Environment COI stakeholders are listed in Table 3-6.

*Table 3-5 Data of Interest for the Aviation Environment COI*

No.	Data of Interest
1	Airport-level Noise
2	Airport-level Emission
3	Local Air Quality
4	Local Noise Impact
5	APMT Cost and Benefit
6	Environmental standards and procedures (e.g., noise, emissions)

*Table 3-6 Aviation Environment COI Stakeholders*

No.	Stakeholders
1	<p>Government/ Noise and Emission Related</p> <ul style="list-style-type: none"> <li>• FAA/AEE (Aviation Environment and Energy)</li> <li>• NASA</li> <li>• Department of Transportation VOLPE Center</li> <li>• EPA (US Environmental Protection Agency)</li> <li>• DOI (Department of Interior)</li> <li>• DOC (Department of Commerce)</li> </ul> <p>Government/Energy Related</p> <ul style="list-style-type: none"> <li>• FAA/AEE (Aviation Environment and Energy)</li> <li>• NASA</li> <li>• USAF (US Air Force)</li> <li>• DOE (Department of Energy)</li> <li>• DOC (Department of Commerce)</li> </ul>
2	<p>Research and Organizations/Noise and Emission Related</p> <ul style="list-style-type: none"> <li>• PARTNER COE (Center of Excellence)</li> </ul>

	<ul style="list-style-type: none"> <li>• FICAN (Federal Interagency Committee on Aviation Noise)</li> <li>• SAE International</li> <li>• LMI (Logistic Management Institute)</li> <li>• IATA (International Air Transport Association)</li> </ul> Research and Organizations/Energy Related <ul style="list-style-type: none"> <li>• AIA (Aerospace Industries Association)</li> <li>• ACI (Airport Council International)</li> <li>• Research/academia</li> </ul>
3	International/ Noise and Emission Related <ul style="list-style-type: none"> <li>• EU (European Union)</li> <li>• EUROCONTROL</li> <li>• ICAO/CAEP (International Civil Aviation Organization/Committee on Aviation Environmental Protection)</li> </ul>
4	Private industries/ Noise and Emission Related <ul style="list-style-type: none"> <li>• Aircraft Manufacturers (Boeing , Airbus)</li> <li>• Airlines</li> <li>• Airports</li> </ul> Private industries/ Energy <ul style="list-style-type: none"> <li>• Energy Industries</li> <li>• Investors</li> </ul>

### 3.1.4 Navigation COI

The Navigation COI is a group of users interested in Aviation Navigation related information. The Navigation COI data of interest identified as a result of the surveys are described in Table 3-7. Navigation COI stakeholders are listed in Table 3-8.

*Table 3-7 Data of Interest for the Navigation COI*

No.	Data of Interest
1	Navaid outages
2	Navaid / Approach Aid Status

*Table 3-8 Navigation COI Stakeholders*

No.	Stakeholders
1	Satellite Sources
2	FAA (NAVAIDS)
3	Airlines
4	Generation Aviation

### 3.1.5 Operational Impact COI

The Operational Impact COI is a group of users interested in Operational Impact related information. The Operational Impact COI data of interest identified as a result of the surveys are described in Table 3-9. Operational Impact COI stakeholders are listed in Table 3-10.

**Table 3-9 Data of Interest for the Operational Impact COI**

No.	Data of Interest
1	Operational impacts caused by ATC system
2	Operational impacts caused by other airport problems
3	Operational impacts caused by airline problems

**Table 3-10 Operational Impact COI Stakeholders**

No.	Stakeholders
1	Airport
2	Airlines
3	FAA ATC (Air Traffic Control)
4	FAA TFM (Traffic Flow Management)
5	General Aviation

### 3.1.6 Aviation Safety COI

The Safety COI is a group of users interested in aviation safety related information. The aviation safety COI data of interest identified as a result of the surveys are described in Table 3-11. The Aviation safety COI stakeholders are listed in Table 3-12.

**Table 3-11 Data of Interest for the Safety COI**

No.	Data of Interest
1	EMOCS (Emergency Management Operations Control System )data Next Generation Air Transportation System Emergency Management Operations Control System (NextGen EMOCS)

**Table 3-12 Safety COI Stakeholders**

No.	Stakeholders
1	FAA AVS (Aviation Safety) (civilian safety oversight)
2	DOD (Department of Defense)
3	DOC/NOAA (National Oceanic and Atmospheric Administration)
4	DHS (Department of Homeland Security)
5	Airlines (ALPA (Airline Pilots Association)/ATA (Air Transport Association)
6	General Aviation (AOPA (Aircraft Owners and Pilots Association))
7	Airports (FAA ARP (Airports Redirect Page)
9	PAMA (Professional Aviation Maintenance Association)/FAASTeam (FAA Safety Team)
10	HAI (Helicopter Association International)
11	NBAA (National Business Aviation Association)
12	GAMA(General Aviation Manufacturers Association)

### 3.1.7 Aviation Security COI

The Aviation Security COI is a group of users interested in aviation security related information. The Aviation Security COI data of interest identified as a result of the surveys are described in Table 3-13. Aviation Security COI stakeholders are listed in Table 3-14.

*Table 3-13 Data of Interest for the Aviation Security COI*

No.	Data of Interest
1	Security Threats and Status <ul style="list-style-type: none"> <li>• Status of checkpoints (Equipment, staff, etc)</li> </ul>
2	Data from airport terminal operators regarding any suspicious or unusual activity in the airport including radical increases of passengers in the terminal
3	Data from ramp attendants regarding any suspicious or unusual activity near aircraft on the ramp
4	ADAPT data <ul style="list-style-type: none"> <li>• Automatic Detection and Processing Terminal (ADAPT) refers to an envisioned automation based capability, which would enable the FAA to vet in real time air traffic operating in the National Airspace System (NAS) and neighboring airspace in order to discriminate between legitimate flights and those aircraft that might pose a security threat to the U.S.</li> </ul>
5	AAFAS data <ul style="list-style-type: none"> <li>• Automated Airborne Flight Service System (AAFAS), Avionics software technology used to detect anomalous aircraft conditions and transmit alerts and relevant avionic parameters to existing air/ground communications links</li> </ul>

*Table 3-14 Aviation Security COI Stakeholders*

No.	Stakeholders
1	Airline
2	Airport
3	TSA (Transportation Security Administration)
4	DHS (Department of Homeland Security)
5	DOD (Department of Defense)

### 3.1.8 Surveillance COI

The Surveillance COI is a group of users interested in Surveillance related information. The Surveillance Impact COI data of interest identified as a result of the surveys are described in Table 3-15. Surveillance COI stakeholders are listed in Table 3-16.

*Table 3-15 Data of Interest for the Surveillance COI*

No.	Data of Interest
1	Long range radar data
2	Short range radar data

3	ADS-B Data
4	Integrated surveillance products
5	Commercial (non-FAA) Surveillance Data

*Table 3-16 Surveillance COI Stakeholders*

No.	Stakeholders
1	FAA (Surveillance)
2	DoD (Surveillance)
3	Other surveillance sources
4	Airlines
5	General Aviation
6	FAA ATC (Air Traffic Control)
7	FAA TFM (Traffic Flow Management)
8	Airport and Ramp Operator (e.g., Ground Support Equipment)

### 3.1.9 Traffic Management COI

The Traffic management COI is a group of users interested in Traffic management related information. The Traffic Management COI data of interest identified as a result of the surveys are described in Table 3-17 . Traffic Management COI stakeholders are listed in Table 3-18.

*Table 3-17 Data of Interest for the Traffic Management COI*

No.	Data of Interest
1	Traffic (Current State )
2	Traffic (Future State – TFM Modeling/Planning Tools)
3	Traffic Management Initiatives (Present)
4	Traffic Management Initiatives (Future and Planned)
5	4DT Availability (Trajectory (Re) Negotiations
6	Traffic mgmt information like delays/arrival capacity/initiatives
7	Hourly air traffic activity counts
8	Present and Forecast NAS Delays
9	Military Airspace Status and Availability
10	Flight plan information
11	Routes/trajectories
12	COA (Certificate of Authorization) data COA is an authorization issued by the Air Traffic Organization to a public operator for a specific unmanned aircraft (UA) activity. The UAS COA Online System will provide applicants an electronic method of requesting a Certificate of Authorization or Waiver.

**Table 3-18 Traffic Management COI Stakeholders**

No.	Stakeholders
1	FAA TFM (Traffic Flow Management)
2	DOC/NOAA
3	DOD
4	DHS
5	FAA ATC
6	Airlines
7	Airports

### 3.1.10 Weather COI

The Weather COI is a group of users interested in aviation weather related information. The Weather COI data of interest identified as a result of the surveys are described in Table 3-19. The Weather COI stakeholders are listed in Table 3-20.

**Table 3-19 Data of Interest in the Weather COI**

NO.	Data of Interest
1	Comprehensive weather data – local and system-wide
2	Real-time Weather Observations
	○ Local Lightning activity (ground strikes)
	○ One Minute Automated surface observation System (ASOS)
	○ Wind Shear Advisories & Alerts
	○ Liquid Water Equivalent of Frozen & Freezing Precipitation
	○ Manually produced Pilot Reports
	○ Runway Visual Range (RVR)
	○ Runway Conditions
	▪ Surface Temperature
	▪ Contaminants (water: liquid, frozen or mixed; depth)
	▪ Braking Action (friction coefficient)
	○ Aircraft Automated Reports
	▪ Water Vapor
	▪ Turbulence
	▪ Wind Velocity
	▪ Temperature
	○ Weather Forecasts
	○ Temperatures (Surface and levels above)
	○ Wind Velocities (Surface and levels above)
	○ Cloud Ceilings and Horizontal Surface & Tower Visibility
	○ Weather Hazards

	– Weather products
	○ Point and area products
3	Weather forecast information that portends major impact of weather on aircraft scheduled changes that will obviously impact aviation security passenger screening

*Table 3-20 Weather COI Stakeholders*

No.	Stakeholders
1	NAS Weather
2	NWS (National Weather Service)
3	Weather Vendors
4	Airline Meteorology Offices
5	Airlines
6	General Aviation
7	Airport
8	FAA TFM
9	FAA ATC

### 3.2 Information Sharing Issues Identified in the Surveys

Issues related to information sharing were part of the survey and the associated questions were answered by some survey participants. These issues are listed in Table 3-21.

*Table 3-21 Issues in Information Sharing*

Information Sharing Issues	Obstacle	Enabler	Related COI
In need of CFDR (computer Flight Data Recorder) for the aviation environment analysis	Pilot union limits the release of the CFDR data	Need to talk to pilot union lawyers	Aviation Environmental Impact COI
Weather data formats is an important issue in the weather COI	Many different weather data formats	Somehow unify weather data formats	Weather COI
Airport security related information sharing	Currently there is almost no interaction between airport and airline operations for the exchange of security data	Enforce security information exchange between airports and airlines	Airport COI, Aviation Security COI

Quick update of status of checkpoint (such as throughput of passenger checkpoint lanes) at airport needed to help airport managers making decisions	Not enough quick update	Connection between checkpoints, airport managers and airlines	Airport COI
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### 3.3 Feedback on Data Catalogs

Comments on data catalogs were received from some of the survey participants. Comments are in the areas of weather information, airport security information, AOC information, and aviation environment impact information. Changes corresponding to these comments have been made to the data catalogs (Subtask 1 report). They are not shown in this Subtask 2 report.

## APPENDIX A: ACRONYMS

---

ACI-NA	Airport Council International-North America
AIA	Aerospace Industries Association
ALPA	Airline Pilots Association
AOC	Airline Operations Center
AOPA	Aircraft Owners and Pilots Association
APMT	Aviation environmental Portfolio Management Tool
ANSP	Air Navigation Service Provider
ATA	Air Transport Association
ATC	Air Traffic Control
CBP	Customs and Boarder Protection
COE	Center of Excellence
COI	Communities of Interest
CONOPS	Concept of Operations
CWIS	Community Wide Information Sharing
DHS	Department of Homeland Security
DOC/NOAA	Department of Commerce/ National Oceanic and Atmospheric Administration
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DSS	Decision Support Systems
EMOCS	Emergency Management Operations Control System
EPA	US Environmental Protection Agency
EU	European Union
FAA	Federal Aviation Administration
FAA/AEE	Federal Aviation Administration/Aviation Environment and Energy
FAASTeam	FAA Safety Team
FBO	Fixed Base of Operation
FICAN	Federal Interagency Committee on Aviation Noise
GA	General Aviation
GAMA	General Aviation Manufacturers Association
IATA	International Air Transport Association
ICAO/CAEP	International Civil Aviation Organization/Committee on Aviation Environmental Protection
HAI	Helicopter Association International
IMC	JPDO Institute Management Council
JPDO	Joint Planning and Development Office
NAS	National Air Space
NASA	National Aeronautics and Space Administration
NBAA	National Business Aviation Association
NEIS	Net-Enabled Information Sharing
NextGen	Next Generation Air Transportation System
NTSB	National Transportation Safety Board
PAMA	Professional Aviation Maintenance Association
PNR	Passenger Name Record
TFM	Traffic Flow Management
TSA	Transportation Security Administration
USAF	US Air Force
VLJ	Very Light Jet
WG	JPDO working group

## APPENDIX B: SURVEY INVITATION LETTER

---

**Stephen Henriksen**  
Senior Program Manager  
tel 703 668 6195  
stephen.Henriksen@itt.com

**Jenny Jin, PhD**  
Principal Engineer  
tel 703 668 6204  
Jenny.Jin@itt.com

Advanced Engineering &  
Sciences  
**ITT Corporation**  
12975 Worldgate Drive  
Herndon, VA 20170

To: STAKEHOLDERS

Subject: Request for participation in the NextGen Institute Community Wide Information Sharing (CWIS) Study and Workshop

Dear Colleagues,

The purpose of this letter is to invite the participation of civil aviation community stakeholders in a community wide information sharing study. This study for the Next Generation Air Transportation System (NextGen) Institute, in cooperation with the Joint Planning and Development Office (JPDO), is aimed at identifying communities of interest (COI) of information sharing for the NextGen.

The study of aviation information sharing today and vision for information sharing in the NextGen environment needs to reflect the views and voices of the aviation community stakeholders.

Your organization has been selected as a representative for your segment of the civil aviation, so your voice will be valued and bear significant weight in the final result of this task.

The JPDO Net Centric Concepts Working Group is designing a Net-Enabled Information Sharing (NEIS) environment for NextGen where various stakeholders, including government agencies, aviation operators, and third-parties will benefit from having access to information about the NAS (National Airspace System), airports, airlines, maintenance facilities and supporting services. The goal is to design an NEIS that maximizes availability of useful information without compromising legitimate national security, homeland security, and market competition concerns.

In support of this goal, the CWIS task includes three main activities. The first activity is the analysis and cataloging of current information sharing regimes (government only, private sector, and public-private ventures) that may be incorporated into the NextGen NEIS. To achieve this,

and understanding of existing information and its providers and consumers is crucial. The second activity is the identification of key COIs. A COI is “a collaborative group of users who must exchange information in pursuit of their shared goals, interests, missions or business processes and who therefore must have shared vocabulary for the information they exchange”<sup>4</sup>. Stakeholders can address their valid need for data and list barriers/concerns to information sharing. As part of the COIs, stakeholders can provide their views and voices to influence policy makers. The third activity of this task is to further identify COI issues such as information scope, classification, security, ownership and etc.

We are planning two rounds of interviews and one workshop to solicit the necessary stakeholder inputs, while appreciating the value of your time. The first interview is designed to be email/text-based to be completed in approximately 20 minutes. The second round will consist of one-on-one telephone conference to be completed in about 60 minutes. The interview responses will be used to develop stakeholder views of current information sharing, barriers to and enablers for information sharing, and stakeholder interest in segmenting particular COIs. Following CWIS task team analysis of the responses, the team will identify an initial set of COIs. A follow up COI workshop will then be conducted at JPDO Headquarter to further refine COI segmentations and define COI information scope, classification, security, ownership, etc.

All information received will be treated in confidence and will be un-attributable to either yourself or your organization. We value your honest opinion and as such, we provide assurance that your responses will not be divulged to anyone outside the project team.

Thank you for your consideration for providing your voice in this task. Attached please find the first interview questionnaires. If you would like to participate, we would greatly appreciate a response to the survey by Wednesday March 5<sup>th</sup>.

Sincerely,

CWIS task team  
Stephen Henriksen -- ITT AES  
Jenny Jin – ITT AES

---

<sup>4</sup> DoD Data Strategy, DoD 8320.02-G, 12 Apr 2006

## APPENDIX C: FIRST SURVEY QUESTIONS

### Interviewee Information

**Name:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Organization:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

### Questions

1. Your subject matter expertise domain (please check all that apply):

- \_\_\_\_\_ FAA/NAS
- \_\_\_\_\_ Airport Operation and Security
- \_\_\_\_\_ Airline Operation and Support
- \_\_\_\_\_ Flight Operation and Support
- \_\_\_\_\_ Air Navigation Services
- \_\_\_\_\_ Security and Defense Providers
- \_\_\_\_\_ Aviation Manufacturer
- \_\_\_\_\_ Airport Tenant
- \_\_\_\_\_ Aviation Safety,
- \_\_\_\_\_ Aviation Environmental Performance
- \_\_\_\_\_ Global Harmonization
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

2. Among the following categories of NextGen Information, of which do you have the most knowledge (i.e., who provides information, consumes information and how does the information flow from its providers to consumers?)

- \_\_\_\_\_ Flight planning and flight data management
- \_\_\_\_\_ Surveillance information
- \_\_\_\_\_ Safety management information
- \_\_\_\_\_ Weather information
- \_\_\_\_\_ Aeronautical information
- \_\_\_\_\_ Air Navigation information
- \_\_\_\_\_ Aviation Environmental Performance
- \_\_\_\_\_ Geospatial information
- \_\_\_\_\_ Airport operation and support
- \_\_\_\_\_ Airline operation and support
- \_\_\_\_\_ Flight Operations and Support

\_\_\_\_\_ Aviation Security  
\_\_\_\_\_ Other Information (please specify)

---

---

3. With respect to the existing information sharing capabilities, please answer the following:

A. The CWIS task team has produced draft data catalogs in NAS surveillance, weather, aeronautical information, airport security and airline operation; these catalogs provide high level data classifications, data providers and consumers, as well as high level data flows.

Please check which draft catalog(s) you can comment on:

- \_\_\_\_\_ Surveillance
- \_\_\_\_\_ Weather
- \_\_\_\_\_ Aeronautical information
- \_\_\_\_\_ Airport security
- \_\_\_\_\_ Airline operations and/or Flight operations

B. Can you provide information/documentations on the following categories of data?

- \_\_\_\_\_ Aviation Safety
- \_\_\_\_\_ Aviation Security
- \_\_\_\_\_ Aviation Environmental Performance
- \_\_\_\_\_ Global Harmonization
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

4. A NextGen Community of Interest (COI) is defined as a group of users who must share information in pursuit of shared missions, goals, and interest. There are different ways of grouping COIs,

A. How would you group various NextGen information users? By

- \_\_\_\_\_ Shared information type (e.g., weather, surveillance, etc.)
- \_\_\_\_\_ Service type (e.g., security, safety management, etc.)
- \_\_\_\_\_ Special interest in certain information (e.g., aircraft ID, weather products etc.)
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

B. List 5 to 10 key categories of interest of information that NextGen stakeholders would want to have access to:

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---

5. We will be contacting you for a follow up interview, which will take about an hour.

A. Would you like the follow up interview to be conducted by email exchange or by a one-on-one telephone conference?

\_\_\_\_\_ Email exchange

\_\_\_\_\_ Telephone conference

\_\_\_\_\_ Delegate to another person (please provide the contact information here)

---

---

B. Will you be available for this exchange within the next two to three weeks?

\_\_\_\_\_ Yes (please specify a day and time of your preference)

---

\_\_\_\_\_ No (please specify when you can be available)

---

6. The follow up workshop will take place in late March or early April at JPDO Headquarter in Washington DC,

A. Would you be able to attend the COI workshop in March/April?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

\_\_\_\_\_ Delegate to another person (please provide the contact information here)

---

---

B. Would you prefer a one-day or two-day workshop?

- \_\_\_\_\_ One-day only
- \_\_\_\_\_ could do a Two-day
- \_\_\_\_\_ other (please specify)

C. Which week(s) in March/April would work for you? Please specify

- \_\_\_\_\_ Week of March 24 (prefer, maybe, no)
- \_\_\_\_\_ Week of March 31 (prefer, maybe, no)
- \_\_\_\_\_ Week of April 7 (prefer, maybe, no)
- \_\_\_\_\_ other (please specify)

Thank you very much indeed for your participation.

Note here any additional comments:

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**Please fill this form and email your interview response back to:**

**[Jenny.Jin@itt.com](mailto:Jenny.Jin@itt.com)**

**Stephen Henriksen**  
Senior Program Manager  
Advanced Engineering &  
Sciences  
tel 703 668 6195  
stephen.Henriksen@itt.  
com

**Jenny Jin, PhD**  
Principal Engineer  
Advanced Engineering &  
Sciences  
tel 703 668 6204  
JennyJin@itt.com

**Community Wide Information Sharing Task First Round Interview**

**Interviewee Information**

**Name:** \_\_\_\_\_

**Position:** \_\_\_\_\_

**Organization:** \_\_\_\_\_

**Telephone:** \_\_\_\_\_

**Email:** \_\_\_\_\_

**Questions**

1. Your subject matter expertise domain (please check all that apply):

- \_\_\_\_\_ FAA/NAS
- \_\_\_\_\_ Airport Operation and Security
- \_\_\_\_\_ Airline Operation and Support
- \_\_\_\_\_ Flight Operation and Support
- \_\_\_\_\_ Air Navigation Services
- \_\_\_\_\_ Security and Defense Providers
- \_\_\_\_\_ Aviation Manufacturer
- \_\_\_\_\_ Airport Tenant
- \_\_\_\_\_ Aviation Safety,
- \_\_\_\_\_ Aviation Environmental Performance
- \_\_\_\_\_ Global Harmonization
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

2. Among the following categories of NextGen Information, of which do you have the most knowledge (i.e., who provides information, consumes information and how does the information flow from its providers to consumers?)

- Flight planning and flight data management
- Surveillance information
- Safety management information
- Weather information
- Aeronautical information
- Air Navigation information
- Aviation Environmental Performance
- Geospatial information
- Airport operation and support
- Airline operation and support
- Flight Operations and Support
- Aviation Security
- Other Information (please specify)

---



---

3. With respect to the existing information sharing capabilities, please answer the following:

A. The CWIS task team has produced draft data catalogs in NAS surveillance, weather, aeronautical information, airport security and airline operation; these catalogs provide high level data classifications, data providers and consumers, as well as high level data flows.

Please check which draft catalog(s) you can comment on:

- Surveillance
- Weather
- Aeronautical information
- Airport security
- Airline operations and/or Flight operations

B. Can you provide information/documentations on the following categories of data?

- Aviation Safety
- Aviation Security
- Aviation Environmental Performance
- Global Harmonization
- Other (please specify) \_\_\_\_\_

4. A NextGen Community of Interest (COI) is defined as a group of users who must share information in pursuit of shared missions, goals, and interest. There are different ways of grouping COIs,

A. How would you group various NextGen information users? By

- Shared information type (e.g., weather, surveillance, etc.)
- Service type (e.g., security, safety management, etc.)
- Special interest in certain information (e.g., aircraft ID, weather products etc.)
- Other (please specify) \_\_\_\_\_

B. List 5 to 10 key categories of interest of information that NextGen stakeholders would want to have access to:

---

---

---

---

---

5. We will be contacting you for a follow up interview, which will take about an hour.

A. Would you like the follow up interview to be conducted by email exchange or by a one-on-one telephone conference?

- Email exchange
- Telephone conference
- Delegate to another person (please provide the contact information here)

---

---

C. Will you be available for this exchange within the next two to three weeks?

Yes (please specify a day and time of your preference)

---

No (please specify when you can be available)

---

6. The follow up workshop will take place in late March or early April at JPDO Headquarter in Washington DC,

A. Would you be able to attend the COI workshop in March/April?

\_\_\_\_\_ Yes

\_\_\_\_\_ No

\_\_\_\_\_ Delegate to another person (please provide the contact information here)

---

---

D. Would you prefer a one-day or two-day workshop?

\_\_\_\_\_ One-day only

\_\_\_\_\_ could do a Two-day

\_\_\_\_\_ other (please specify)

E. Which week(s) in March/April would work for you? Please specify

\_\_\_\_\_ Week of March 24 (prefer, maybe, no)

\_\_\_\_\_ Week of March 31 (prefer, maybe, no)

\_\_\_\_\_ Week of April 7 (prefer, maybe, no)

\_\_\_\_\_ other (please specify)

Thank you very much indeed for your participation.

Note here any additional comments:

---

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---

---

**Please fill this form and email your interview response back to:**

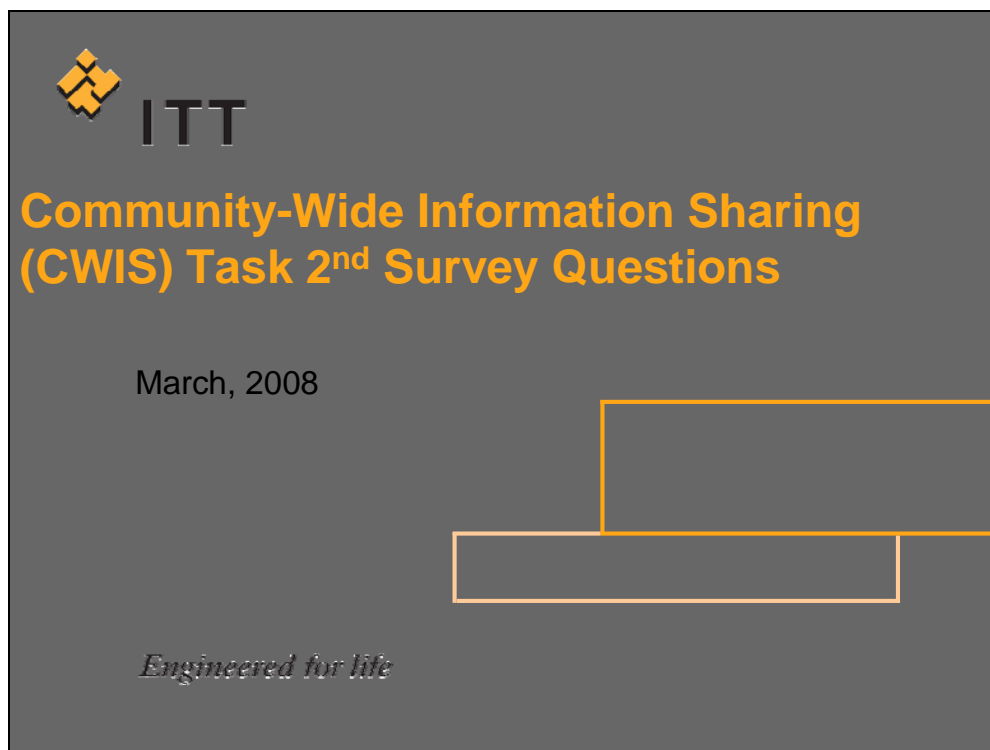
**[Jenny.Jin@itt.com](mailto:Jenny.Jin@itt.com)**

## APPENDIX D: SECOND SURVEY QUESTIONS

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Survey 2 questions are tailored to each participant based on their areas of interest and expertise. Different high level data catalog information (data flow and data types) is provided to different survey participants for them to review. This appendix shows one example of the survey 2 questions. Survey 2 questions are presented in PowerPoint slides.

Slide 1



Slide 2

**Introduction**

Dear Mr. XX,

This document contains the 2<sup>nd</sup> CWIS Survey questions and information needed for the survey. These questions are organized into two parts: [Community of Interest \(COI\) related questions](#) and [CWIS Data catalog related questions](#). We provide you with the data catalogs that you are interested in as stated in your first survey response (airport security and Airline operations center).

The outline of this document is:



- First CWIS Survey Proposed COIs
- COI Related Questions
- Specific Data Catalog of interest
- Data Catalog Related Questions

Please answer both parts of the questions. We appreciate your inputs very much!

Sincerely,

Jenny Jin  
ITT CWIS Team  
[Jenny.Jin@itt.com](mailto:Jenny.Jin@itt.com)  
703-668-6204

---



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Slide 3

**Part 1 – Identify NextGen COIs**


- As a result of the first CWIS survey response, nine COIs have been identified with specific information of interest associated with these COIs. They are summarized in the next two slides.
- To help further refine this information, please answer the 2nd CWIS survey COI related questions

---

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### First CWIS Survey Proposed COI Groups (1) – Summary

<p><b>1. Airline</b></p> <ul style="list-style-type: none"> <li>➢ Aircraft information (much of this should be in the future flight object)</li> <li>➢ Data from airlines on changes to departure schedules caused by flight cancellations due to weather</li> <li>➢ Passenger related             <ul style="list-style-type: none"> <li>- passenger information</li> <li>- PNR (Passenger Name Record) data</li> </ul> </li> </ul> <p><b>2. Airport-specific</b></p> <ul style="list-style-type: none"> <li>➢ Airfield construction closure plans</li> <li>➢ Airfield snow removal closure plans</li> <li>➢ Airport gate availability</li> <li>➢ Deicing facility status</li> <li>➢ Airport remote aircraft parking availability</li> <li>➢ Real-time aircraft flight tracking data</li> <li>➢ Airport emergency response plan</li> <li>➢ Real time runway condition reports</li> <li>➢ Current airport delays</li> <li>➢ Airport Status Information</li> <li>➢ Airport information like active runway/conditions/constraints</li> <li>➢ Airport Status</li> <li>➢ Runway Status (e.g., braking action reports)</li> </ul> <p><b>3. Navigation</b></p> <ul style="list-style-type: none"> <li>➢ Navaid outages</li> <li>➢ Navaid / Approach Aid Status</li> </ul>	<p><b>4. Operational Impacts</b></p> <ul style="list-style-type: none"> <li>➢ Operational impacts caused by ATC system</li> <li>➢ Operational impacts caused by other airport problems</li> <li>➢ Operational impacts caused by airline problems</li> </ul> <p><b>5. Safety</b></p> <ul style="list-style-type: none"> <li>➢ EMOCS data             <ul style="list-style-type: none"> <li>❑ Next Generation Air Transportation System Emergency Management Operations Control System (NextGen EMOCS)</li> </ul> </li> </ul> <p><b>6. Security</b></p> <ul style="list-style-type: none"> <li>➢ Security Threats and Status</li> <li>➢ Data from airport terminal operators regarding any suspicious or unusual activity in the airport including radical increases of passengers in the terminal</li> <li>➢ Data from ramp attendants regarding any suspicious or unusual activity near aircraft on the ramp</li> <li>➢ ADAPT data             <ul style="list-style-type: none"> <li>❑ Automatic Detection and Processing Terminal (ADAPT) refers to an envisioned automation based capability, which would enable the FAA to vet in real time air traffic operating in the National Airspace System (NAS) and neighboring airspace in order to discriminate between legitimate flights and those aircraft that might pose a security threat to the U.S.</li> </ul> </li> <li>➢ AAFAS data             <ul style="list-style-type: none"> <li>❑ Automated Airborne Flight Service System (AAFAS), Avionics software technology used to detect anomalous aircraft conditions and transmit alerts and relevant avionic parameters to existing air/ground communications links</li> </ul> </li> </ul>
---	--




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### First CWIS Survey Proposed COI Groups (2) – Summary

<p><b>7. Surveillance</b></p> <ul style="list-style-type: none"> <li>➢ Long range radar data</li> </ul> <p><b>8. Traffic Management</b></p> <ul style="list-style-type: none"> <li>➢ Traffic (Current State - ASD)</li> <li>➢ Traffic (Future State – TFM Modeling/Planning Tools)</li> <li>➢ Traffic Management Initiatives (Present)</li> <li>➢ Traffic Management Initiatives (Future and Planned)</li> <li>➢ 4DT Availability (Trajectory (Re) Negotiations)</li> <li>➢ Traffic mgmt information like delays/arrival capacity/initiatives</li> <li>➢ Hourly air traffic activity counts</li> <li>➢ Present and Forecast NAS Delays</li> <li>➢ Military Airspace Status and Availability</li> <li>➢ Flight plan information</li> <li>➢ Routes/trajectories</li> <li>➢ COA (Certificate of Authorization) data             <ul style="list-style-type: none"> <li>❑ COA is an authorization issued by the Air Traffic Organization to a public operator for a specific unmanned aircraft (UA) activity. The UAS COA Online System will provide applicants an electronic method of requesting a Certificate of Authorization or Waiver.</li> </ul> </li> </ul>	<p><b>9. Weather</b></p> <ul style="list-style-type: none"> <li>➢ Comprehensive weather data – local and system-wide</li> <li>➢ Real-time weather</li> <li>➢ Local lightning activity</li> <li>➢ Weather products</li> <li>➢ Weather forecast information that portends major impact of weather on aircraft scheduled changes that will obviously impact aviation security passenger screening</li> </ul>
---	---



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**2<sup>nd</sup> CWIS Survey -- COI Related Questions (1/5)**

Resulting from the first survey responses, nine COIs were proposed,

1. Do you feel the need for additional COIs? If so, please specify:  
.....
2. Do you have any recommendations for specific information associated with any of these nine COIs? please specify:  
.....
3. Do you have any recommendations to reorganize the data categorized under these COIs? Please specify:  
.....
4. Are you aware of any other COIs (e.g., SWIM COIs) that are similar to the COIs identified in the CWIS task? Please specify:  
.....


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**COI Related Questions (2/5)**

- COI Stakeholders and potential COI members who may benefit from sharing information have been identified for each of the COI and presented in the tables in the following 4 slides. Please delete or add more stakeholders and members to these COIs:

COI Stakeholders	
Airline COI	Commercial airlines
	Cargo
	General Aviation
	Aircraft Manufacturers
	Passenger
	add more here....
Potential COI Members	
Airport	
FAA	
NTSB	
TSA	
add more here....	

COI Stakeholders	
Airport COI	Airport
	add more here....
Potential COI Members	
Airlines	
General Aviation	
FAA	
TSA	
BCP	
Airport Tenants	
add more here....	



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### COI Related Questions (3/5)

- Please delete or add more stakeholders and members to these COIs:

COI Stakeholders	
	Airport
	Airlines
	FAA ATC
	FAA TFM
	add more here....
Potential COI Members	
	Airlines
	General Aviation
	FAA
	TSA
	add more here....

COI Stakeholders	
	NAS Weather
	NWS
	Weather Vendors
	add more here....
Potential COI Members	
	Airlines
	General Aviation
	Airport
	FAA TFM
	FAA ATC
	add more here....


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### COI Related Questions (4/5)

- Please delete or add more stakeholders and members to these COIs:

COI Stakeholders	
	FAA (Surveillance)
	DoD (Surveillance)
	Other surveillance sources?
	add more here....
Potential COI Members	
	Airlines
	General Aviation
	FAA ATC
	FAA TFM
	add more here....

COI Stakeholders	
	FAA Nav aids
	Satellite sources
	add more here....
Potential COI Members	
	Airlines
	General Aviation
	FAA
	add more here....


COI Stakeholders	
	FAA civilian safety oversight (FAA AVS)
	DOD
	Commerce/weather
	DOC/NOAA
	DHS
	add more here....
Potential COI Members	
	Airlines (ALPA/ATA)
	General Aviation (AOPA)
	Airports (FAA ARP)
	PAMA/FAAS Team
	Rotorcraft (IHST/HAI)
	Business Aircraft (NBAA)
	OEM (GAMA)
	add more here....


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**COI Related Questions (5/5)**


- Please delete or add more stakeholders and members to these COIs:

<b>Security COI</b>	<b>COI Stakeholders</b>
	NAS Weather
	NWS
	Weather Vendors
	add more here....
<b>Traffic Management COI</b>	<b>COI Stakeholders</b>
	FAA TFM
	Weather (NOAA)
	DoD
	DHS
	FAA ATC
	add more here....
<b>Potential COI Members</b>	
Airlines	
General Aviation	
Airport	
FAA TFM	
FAA ATC	
add more here....	




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**Part 2 – CWIS Data Catalog**

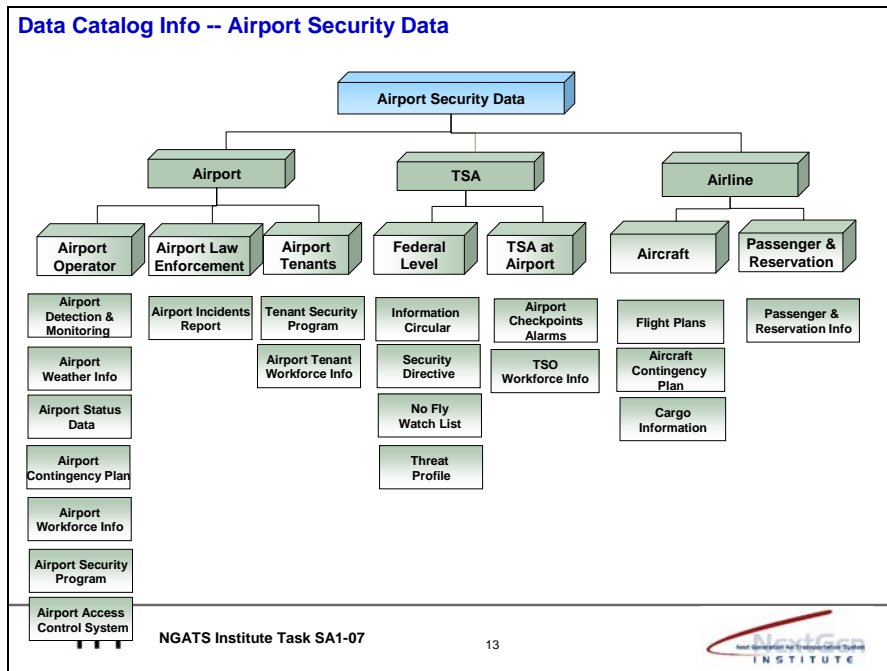
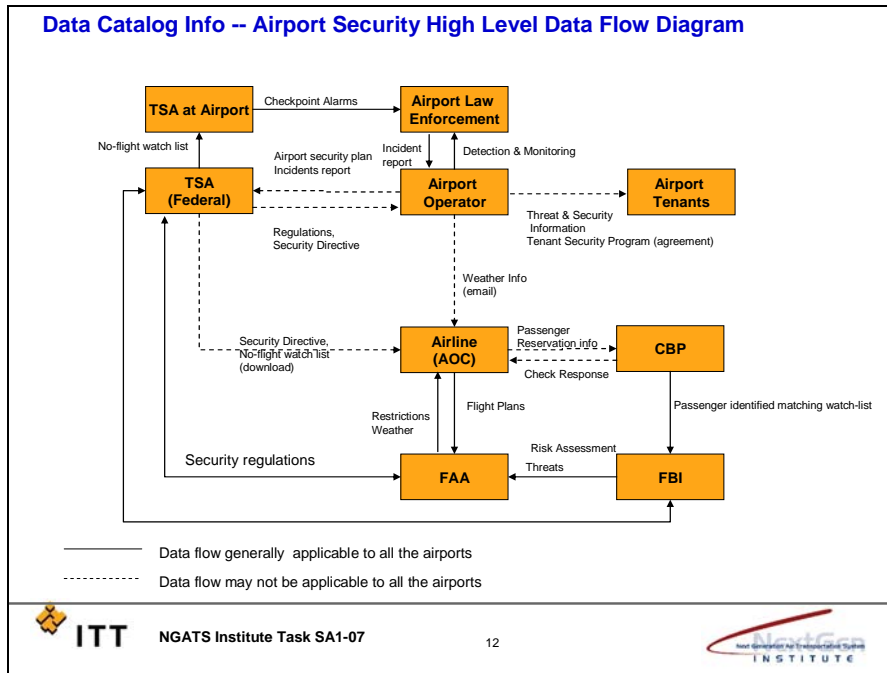
- The CWIS task team has generated a few high level data catalogs for analysis. We are providing the ones that you addressed interest in on your first CWIS survey response. High level data context or data flow diagrams as well as data categorization are provided in the following slides.
- To better understand existing information sharing regimes, Please answer data catalog related questions at the end of each data catalog diagrams.



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**Questions Related to Airport Security Data Diagrams (1/2)**

1. For the airport security high level data flow diagram in slide 12, check one or more:

- This diagram contains all the parties involved in airport security
- This diagram needs to add more parties that are currently sharing the information, including the following:  
.....
- This diagram needs to remove some data or parties, including the following :  
.....

2. Do you think airport security data in slide 13 reflects reality?



- Yes
- No, if so please provide your suggested deletions or revisions:  
.....

3. Can you list some potential/future users that may need to share airport security data? Please specify:

.....

4. What data from other parties needs to be shared to improve the efficiency and effectiveness of the airport security system?  
.....

---

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**Questions Related to Airport Security Data Diagrams (2/2)**

5. For the defined airport security data in slide 13, please specify the sensitivity of these data (alternatively, please mark data on the slide with P, C, N as appropriate):

Proprietary Data that will not be shared (P) .....

Classified data (C) .....

Non-classified but sensitive data (N) .....

6. For data types you added in question 4, to whom and to what extent should they be made available to potential users? Please specify:

- Proprietary information .....
- Classified information .....
- Non Classified but sensitive information .....

7. Please identify airport security data that need to be shared, but are currently not shared due to various reasons:



.....

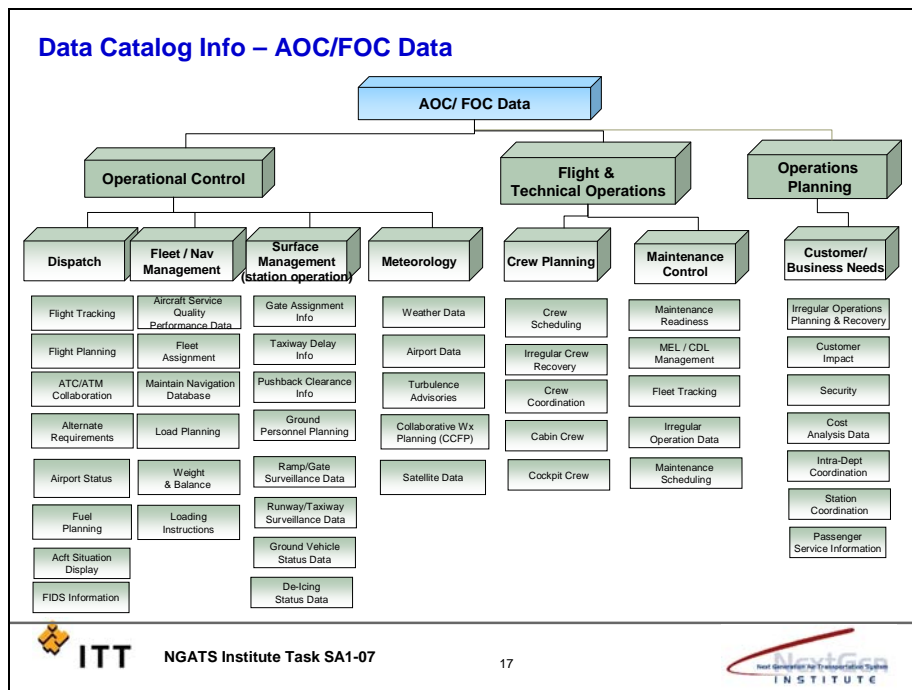
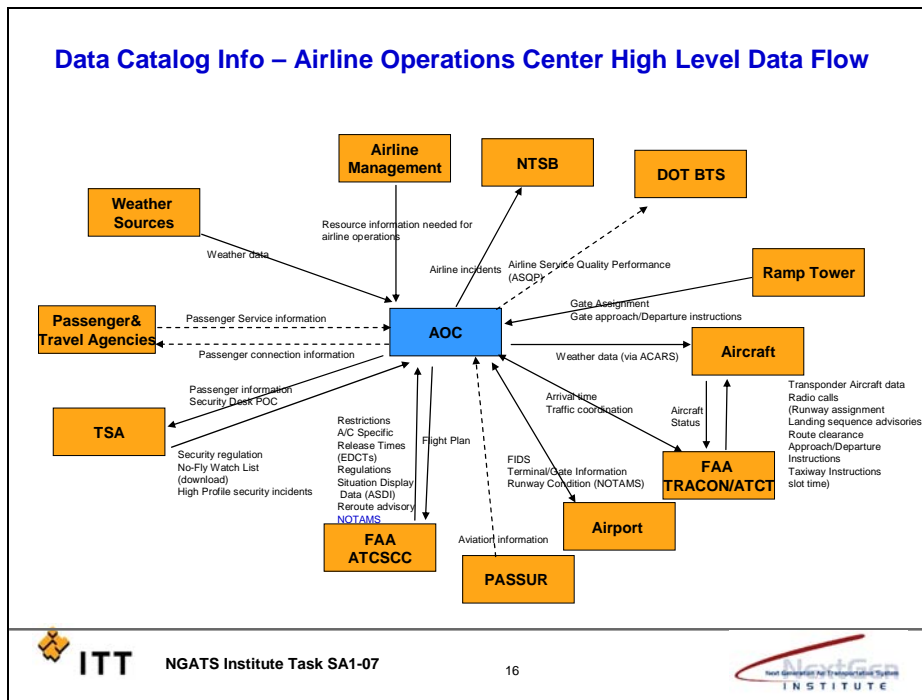
What would enable these data to be shared

- make new policy, specify: .....
- make the data communication system accessible, specify: .....
- other, please specify: .....

8. What are the obstacles that prevent information from being shared in the airport security areas?  
.....

---

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Slide 18

**Questions Related to Airline Operations Center Diagrams (1/2)**



1. For the Airline Operations Center data flow diagram in slide 16, check one or more:  
 This diagram contains all the parties involved in Airline Operations Center ?  
 This diagram needs to add more parties that are currently sharing the information, including the following :  
 .....  
 This diagram needs to remove some data or parties, including the following:  
 .....

2. Do you think Airline Operations Center data described in slide 17 reflects reality?  
 Yes  
 No, if so please provide your suggested deletions or revisions:  
 .....  
 .....

3. Can you list some potential/future users that may need to share Airline Operations Center data? Please specify:  
 .....  
 .....

4. What data from other parties needs to be shared to improve the efficiency and effectiveness of the Airline Operations Center information sharing?  
 .....

---

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Slide 19

**Questions Related to Airline Operations Center Diagrams (2/2)**



5. Among the defined Airline Operations Center data in slide 17, please specify the sensitivity of these data (alternatively, please mark data on the slide with P, C, N as appropriate):  
 Proprietary Data that will not be shared (P) .....  
 Classified data (C) .....  
 Non-classified but sensitive data (N) .....

6. For data types you added in question 4, to whom and to what extent should they be made available to potential users? Please specify:  
 Proprietary information .....  
 Classified information .....  
 Non Classified but sensitive information .....  
 .....

7. Please identify Airline Operations Center data that need to be shared, but are currently not shared due to various reasons:  
 .....  
 What would enable these data to be shared  
 ----- make new policy, specify: .....  
 ----- make the data communication system accessible, specify: .....  
 ----- other, please specify: .....

8. What are the obstacles that prevent information from being shared in the Airline Operations Center ?  
 .....



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**Additional Questions**

- You mentioned in the first survey response that you may be able to provide information/documentation on Airport Operations data. Would you please provide more specifics? Thank you!
  
- Please provide comments or suggestions about this study. Thank you!


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**This concludes the 2<sup>nd</sup> CWIS Survey questions.**

**Thank You !**

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