PARAS PROGRAM FOR APPLIED RESEARCH IN AIRPORT SECURITY

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Airport Credentialing Efficiency Toolkit

National Safe Skies Alliance, Inc.

Sponsored by the Federal Aviation Administration

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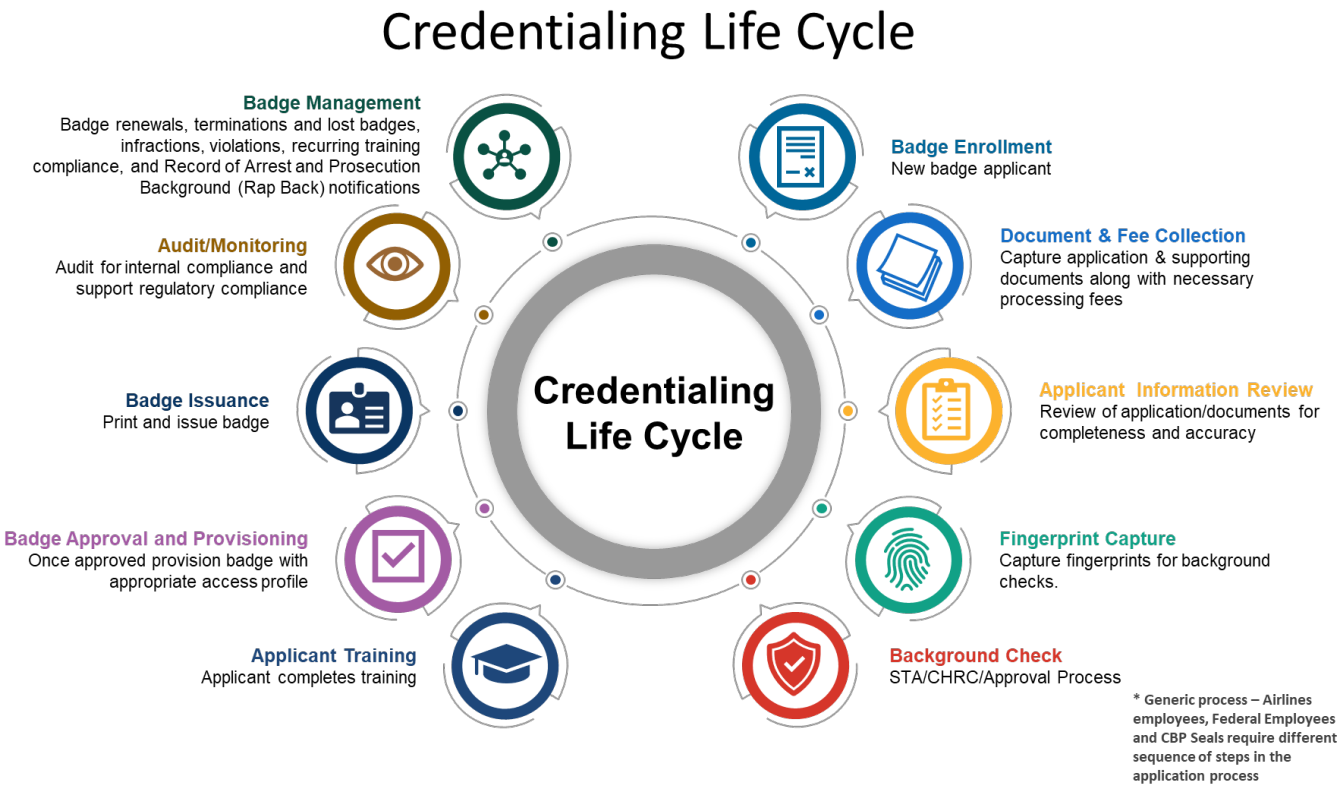
SUMMARY

Airport credentialing offices (CO) are dynamic environments that are responsible for various tasks and responsibilities, as indicated in the figure below.



Procedures that are not optimized may contribute to delays in the credentialing process. For this reason, airports continually explore ways to improve efficiency.

This toolkit was developed to provide airport COs with methods and techniques to consider for improving their efficiency. The guidance includes research findings and recommendations in thirteen credentialing challenge areas, as well as strategies, best practices, checklists, and associated considerations to assist airports in assessing their processes and implementing changes to improve the efficiency of their credentialing process.

In addition, two software tools are included in the toolkit for providing staff forecasting (Appendix B) and self-assessment (Appendix C). The staff forecasting tool enables a CO to forecast staffing requirements up to six months in advance based on historical new applicant/renewal demands. The self-assessment tool enables COs to evaluate their existing operations and provides recommendations based on the Toolkit findings.

Airports of any classification and size can apply the information in this guidance document.

PARAS ACRONYMS

ACRP	Airport Cooperative Research Program
AIP	Airport Improvement Program
AOA	Air Operations Area
ARFF	Aircraft Rescue & Firefighting
CCTV	Closed Circuit Television
CFR	Code of Federal Regulations
DHS	Department of Homeland Security
DOT	Department of Transportation
FAA	Federal Aviation Administration
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
FSD	Federal Security Director
GPS	Global Positioning System
IED	Improvised Explosive Device
IT	Information Technology
MOU	Memorandum of Understanding
RFP	Request for Proposals
ROI	Return on Investment
SIDA	Security Identification Display Area
SOP	Standard Operating Procedure
SSI	Sensitive Security Information
TSA	Transportation Security Administration

ABBREVIATIONS, ACRONYMS, INITIALISMS, AND SYMBOLS

ACS	Access Control System
BI	Business Intelligence
BWI	Baltimore-Washington International Airport
CBT	Computer Based Training
CHRC	Criminal History Records Check
CO	Credentialing Office
COVID-19	Coronavirus Disease 2019
DAC	Designated Aviation Channel
I-9	DHS Employment Eligibility Form
ICT	Wichita Dwight D. Eisenhower Airport
ID	Identification
IDMS	Identity Management System
KPI	Key Performance Indicators
MCO	Orlando International Airport
OJT	On-the-Job Training
PDX	Portland International Airport
ROM	Rough Order of Magnitude
SAT	San Antonio International Airport
SRQ	Sarasota–Bradenton International Airport
STA	Security Threat Assessment

SECTION 1: INTRODUCTION

This toolkit was created to assist airports in assessing and improving the operational efficiency of their credentialing office (CO). COs perform numerous functions and face a variety of challenges. Factors such as applicant demand, staffing, airport size, Authorized Signatory knowledge, existing procedures, level of technology adaptation, and federal mandates can impact operational efficiency and staff utilization. This guidance includes strategies, best practices, and recommendations for the following challenge areas:

- Staffing limitations and job duty assignments
- Badging office location and layout
- Appointments and scheduling
- Authorized Signatory responsibilities
- Leveraging available technology (scheduling software, fingerprinting systems, etc.), including cost and benefit considerations
- Ensuring complete and accurate application submissions
- Document verification
- Applicant assistance
- Forms and instructions
- Relevant metrics and reporting to support decision making
- Supporting airport peer-to-peer communication
- Effectively implementing new processes
- Forecasting and future planning

1.1 Toolkit Overview

Processes, procedures, and forms used in the credentialing process vary widely within the airport industry. Therefore, the research team collected credentialing process data from twenty-six airports: nine large hub, eight medium hub, and nine small hub. Data was collected using a questionnaire and one-on-one airport interviews, and was then analyzed to identify common trends, issues, and challenges.

The resulting recommendations include strategies, best practices, forms, templates, and associated considerations to assist airports in assessing their credentialing processes and implementing changes to improve efficiency. An overview, summary of findings, and recommendations are included for each challenge. The recommendations, where applicable, attempt to address any attributes of specific hub sizes. Additionally, the toolkit includes two software tools to assist airports in performing a self-assessment of their existing credentialing operations and in forecasting staffing requirements.

The icons in Table 1-1 are used throughout the toolkit to highlight valuable information.

Table 1-1. Icon Definition Table

Icon	Definition
	Provides a helpful tip
	Useful checklist to follow
	Provides an industry strategy or best practice
	A useful reminder that can help you save time
	Training-related item

SECTION 2: RESEARCH FINDINGS AND RECOMMENDATIONS

2.1 Staff Availability and Job Duty Assignments

The staff in a CO are critical to the efficiency and success of the office. Ever-changing requirements and regulations, customer service pressures, and repetitive processes that must be meticulously followed create a unique and challenging environment. With no formal industry guidance on how to structure or organize staff and job duty assignments, airports must determine their own method of operations. As such, a wide array of staffing and job duty assignments were found during data collection.

The objective for this challenge area is to improve resource utilization in COs by illustrating approaches for resource management, and by highlighting areas for potential improvement through automation, process refinement, and use of a Staff Forecasting tool (Appendix B).

2.1.1 Summary of Findings

OPERATING HOURS

The majority of COs are open eight hours a day, with outliers ranging from six to eleven hours. The most common opening time is 8:00 a.m., and 4:00 p.m. is the most common closing time. COs are typically closed on weekends. Monday is by far the busiest day, with 9:00 a.m. being the busiest time followed by 10:00 a.m. Early morning hours between 6:00 a.m. and 7:30 a.m. were only reported by medium hub airports.

Ensuring the office is fully staffed Monday morning is a good way to deal with the busiest time and day of the week, and can start the week off right

STAFFING LEVELS

The size of an airport has a direct correlation to the number of staff positions in a CO, with large hub airports having more staff and supervisors in specialized roles. Medium hub airports averaged six staff members and large hub averaged fourteen. Smaller airports reported fewer staff (average of four), with more generalized duties that often include other operational responsibilities, such as ground transportation, key management, driving requests, security coordination, communications, Part 139 compliance, and assisting police and fire departments. All airports stated that supervisors or management were available to assist with CO duties as necessary, with smaller airports also relying on other operational staff, such as Duty Managers, if required.

Opinions on the adequacy of CO staffing levels varied widely, and seemed to be dependent on the airport hiring policy during the COVID-19 pandemic. Most airports believed they would need more staff as traveler numbers increased and more workers returned.

Large hub airports tend to have sufficient volume to support specialization and separation of duties

STAFF POSITIONS

The most common types of positions are frontline, trusted agents, supervisors, and managers. Frontline staff provide credentialing processing support and interact directly with the applicants. Trusted agents

are certified and trained to manage all the credentialing processes and necessary approvals. For day-to-day supervision, COs have supervisors who report to a CO manager. All airports reported that trusted agents are full-time employees, however a small number have other operations duties.

A small number of large hub airports indicated they had a position specifically for contract administration or training. One airport recently moved to remote, online training and tasked Authorized Signatories with ensuring completion.

JOB DESCRIPTIONS

Most front-line CO staff have the same job description. However, back-office and supervisory positions still assist with front-line processing as needed. Some airports have an entry-level job description for front-line CO staff, with potential for promotion to a different job description after two years of service. Small hub airports tend to use more general, administrative job descriptions that may not include specific CO duties.

Back office staff should keep up to date on credential processing as it is common for them to help out with the front-line staff duties

JOB DUTIES/PROCESSES

Very few airports identified bottlenecks in their office processes resulting from assigned job duties; those that did used manual, paper-based processes requiring multiple data entries. Security Threat Assessment (STA) processing was perceived as a bottleneck, but this service is performed exclusively by TSA and therefore out of the CO's control.

Airports reported that workflow order and ease of access to necessary workstations, files, peripherals, and tools are important to ensuring process efficiency.

Automating credentialing processes via software, such as an Identity Management System (IDMS) and/or appointment scheduling software, was by far the most common suggestion for improving CO staff effectiveness. An IDMS can automate multiple credentialing processes, and appointment scheduling software would allow the office to match applicant credentialing demand to CO staffing levels on a day-to-day basis. Appointment scheduling software was the number one suggestion to free up staff time, and was also a common method to manage office workloads.

Airports dealing with excessive workloads cited solutions that included working evenings and weekends, spreading the work over several weeks, eliminating walk-in appointments, and utilizing other operational staff.

The Orlando International Airport (MCO) case study (Appendix A) demonstrates how process improvements coupled with a new IDMS can improve CO efficiencies. MCO removed manual processes and redundant data entry while modifying each of their front counter positions to accommodate all processing steps (application processing, photo-taking, fingerprinting). This reduced wait times from 4 hours to 20 minutes, and shortened application processing time from months to weeks.

The San Antonio International Airport (SAT) case study (Appendix A) demonstrates how the implementation of an IDMS can greatly improve the CO's processes. SAT undertook a process review before implementing the new system to ensure information and documentation gathered were accurate. As a result, staff preparation time for appointments dropped from 60 to 15 minutes, and data entry errors were reduced by 80%.

TRAINING

Trusted agent training is available through third-party providers and can be conducted remotely or on site, but it does not seem to be widely utilized. For trusted agents, on-the-job training (OJT) was by far the most common method of training reported. Only a small number of large hub airports reported having a new-hire training program. It is important to note that OJT is time-consuming by nature, and offices with less staff face an increased burden when turnover occurs.

Other airport security-related training is sometimes available to CO staff, which can help broaden their understanding of airport security and regulatory requirements. Since these courses are not required, available budget can be a limiting factor in their use.

Respondents reported that soft skills training was very important, especially in larger airports. Valuable training topics included customer service practices, de-escalation, and time management. Many airports commented that strong organizational skills and attention to detail are at least equal in importance to any training offered.

All medium and small airports indicated they have a CO manual of some sort, with most of these manuals in electronic format on a shared drive. Large hub airports tend to rely more on SOPs. Two medium and one small hub airport indicated that their CO manual was part of their Airport Security Policies and Procedures.

2.1.2 Recommendations

MINIMIZE DUPLICATE MANUAL DATA ENTRY

Duplicate manual data entry in the credentialing processing is time-consuming and prone to user error. Areas where this occurs should be the first point of focus for improvements, digitization, or automation.

LEVERAGE TECHNOLOGY

Cost-effective technology-based improvements include:

- **Self-Service Scheduling Tool & Virtual Queuing** – Allowing applicants to schedule appointments via an online tool will free up staff time for other duties. Efficiency increases when this is paired with a virtual queueing tool to manage walk-in customers and wait-time expectations. A variety of software applications are available from third-party vendors.
- **Electronic Form Submission** – Fillable online forms can provide basic error checking and ensure the data is readable. Before implementing a fully electronic form with e-signature and submittal features, it is common to begin with a fillable form that is filled out on a computer, and then printed and brought to the CO for processing. This solution can easily be created in-house for minimal cost.

UTILIZE THIRD-PARTY TRAINING

Third-party training for trusted agents may shorten the onboarding period and reduce the burden on staff imposed by OJT. Trusted agent training, as well as training on other topics, is available from reputable organizations focused on aviation security. Including such training in the airport's annual budget is recommended.

MAINTAIN AT LEAST ONE FULL-TIME, DEDICATED CO STAFF MEMBER

CO staff at small hub airports are often required to perform other operational duties. However, credentialing duties and associated audit requirements can be complex and benefit greatly from consistency and familiarity. Considering this, maintaining at least one dedicated CO staff member is strongly recommended, with other operational staff rotating through the office as required. This

dedicated staff member can also serve as the leader for credentialing matters that might otherwise be overlooked by rotating staff.

ALIGN CO LAYOUT WITH WORKFLOW

The CO layout can strongly influence office performance, especially as it relates to front counter workstations. Having all the equipment and peripherals organized so that each counter position can fully process an application can significantly decrease processing and applicant wait times, while improving productivity and customer satisfaction. See Section 2.2 for more details.

CONSIDER A TEMPORARY, REMOTE OFFICE FOR DEMAND SURGES

The location of a CO can play a significant role in managing demand surges. Utilizing a temporary, remote office near the organization or company driving the demand can minimize the impact of such surges. Similarly, offering remote computer-based training (CBT) could alleviate the demand placed on physical training locations.

PERIODICALLY EVALUATE POSITIONS

Considering the dynamic nature of the CO and potential addition of technologies, it is important to conduct periodic reviews of staff positions and their associated roles and responsibilities. This is particularly important for the trusted agents. Reviews should ensure that personnel requisition forms are current and job descriptions, including responsibilities and required skills sets, are accurate for each CO position. While existing staff may have adapted to changes over time, accurate criteria is essential to selecting new hires.

IDENTIFY PEAK TIMES AND UTILIZE A STAFF FORECASTING TOOL

As indicated in the findings, peak hours for a majority of COs occur on Monday mornings. Staff schedules should accommodate peak hours whenever possible. Additionally, a staff forecasting tool—such as the one included in Appendix B—can assist in identifying future staffing needs. This information can be utilized to justify changes in operating hours or staffing levels, and may contribute to the justification for new tools or services.

2.2 Credentialing Office Location and Layout

The physical locations and sizes of airport COs vary among airports. Unfortunately, many COs do not have sufficient space or allow for efficient workflow, and may not be in an easily accessible location. The research efforts for this challenge area focused on optimizing CO design and location.

2.2.1 Summary of Findings

Airport participants reported having COs in both terminal and non-terminal locations. Many factors contributed to the CO locations, including management philosophy, airport layout, primary locations of badge holders, ease of access, and space availability. Other considerations reported by participants include airside accessibility and minimizing public disruption.

When asked to evaluate convenience, 75% of small hub airports were content with the location of their CO, followed by 63% of large hubs, and only 37% of medium hubs.

The reported size of COs was directly correlated with airport hub size, with an average of 2,495 square feet for large hubs, 1,614 square feet for medium hubs, and 814 for small hubs. Overall, 54% of airport participants felt their space was inadequate. Commonly designated areas within the CO were credentialing operations area, training room, waiting room, file/record storage area, and back-office

area. Credentialing operations, training, and waiting areas accounted for most of the physical space allocation. Most airports reported that their training room space allocation was adequate while the waiting room space allocation was inadequate.

Almost all airports, regardless of hub size, indicated that overall CO size was not established by the CO staff. Typically, the space allocated for the CO was determined by a planner, engineer, or design contractor. However, CO staff did have an opportunity to provide input on how the total square footage could be divided into work areas.

The majority of airports that have not recently upgraded or modified their CO indicated having workflow efficiency and staff movement challenges. Older office layouts are set up with a central countertop design that creates a barrier between staff and processing equipment. This is reported to be cumbersome and inefficient. Most airports that have moved into a new CO facility or upgraded/modified their layouts now utilize a trusted agent position-centric design. This design allows for arm's reach access to all necessary equipment for processing credentials.

Front desk agent position-centric design allows for enhanced staff productivity and efficient workflow

When designing the physical layout of the CO, potential expansion needs should be considered to support increased demand in the future.

If possible, when upgrading the CO facility, ensure space capacity for future growth is planned accordingly

Because free space is scarce in many COs, airports are digitizing their records and moving towards electronic forms to reduce document storage needs. Another growing trend is having a remote training room to free up space at the CO itself.

Social distancing requirements for COVID-19 were a complicating factor in most COs, particularly in waiting and training rooms. In response, some airports have increased their remote online training offerings and are allowing only the Authorized Signatory to visit the CO to resolve issues when the applicant's attendance is not required.

2.2.2 Recommendations

GENERAL DESIGN GUIDANCE

Research results clearly indicate that design and location guidance for airport COs is lacking. However, general office design guidance, including ergonomic considerations for staff safety, health, and productivity, can be used. In addition, each airport's Construction/Design department may have related information. General design resources include:

- FAA HF-STD-001 – Human Factors Design Standard https://hf.tc.faa.gov/hfds/
- OSHA Computer Workstations eTool https://www.osha.gov/etools/computer-workstations
- ANSI General Ergonomics Standards https://webstore.ansi.org/industry/ergonomics
- ADA Standards for Accessible Design https://www.ada.gov/2010ADAstandards_index.htm

- ISO 26800:2011 Ergonomics — General approach, principles and concepts https://www.iso.org/standard/42885.html

SPACE ALLOCATION BASELINE

Based on industry research and future scalability of COs, the recommendations in Table 2-1 can be used as a baseline in determining square footage needs. Minimum square footage was calculated by rounding up the current average. A 50% growth factor was added to determine the recommended space allocation.

Table 2-1. Recommended Space Allocation Guideline by Hub Size

Facility	Minimum Space Allocation (Square Feet)	50% Future Space Allocation (Square Feet)	Recommended Space Allocation (Square Feet)
Large Hub			
Credentialing Office*	2,600	1,300	**3,900**
Training Room	1,000	500	**1,500**
Waiting Room	900	450	**1,350**
Medium Hub			
Credentialing Office*	1,750	875	**2,625**
Training Room	550	275	**825**
Waiting Room	650	325	**975**
Small Hub			
Credentialing Office*	1,000	500	**1,500**
Training Room	250	125	**375**
Waiting Room	300	150	**450**

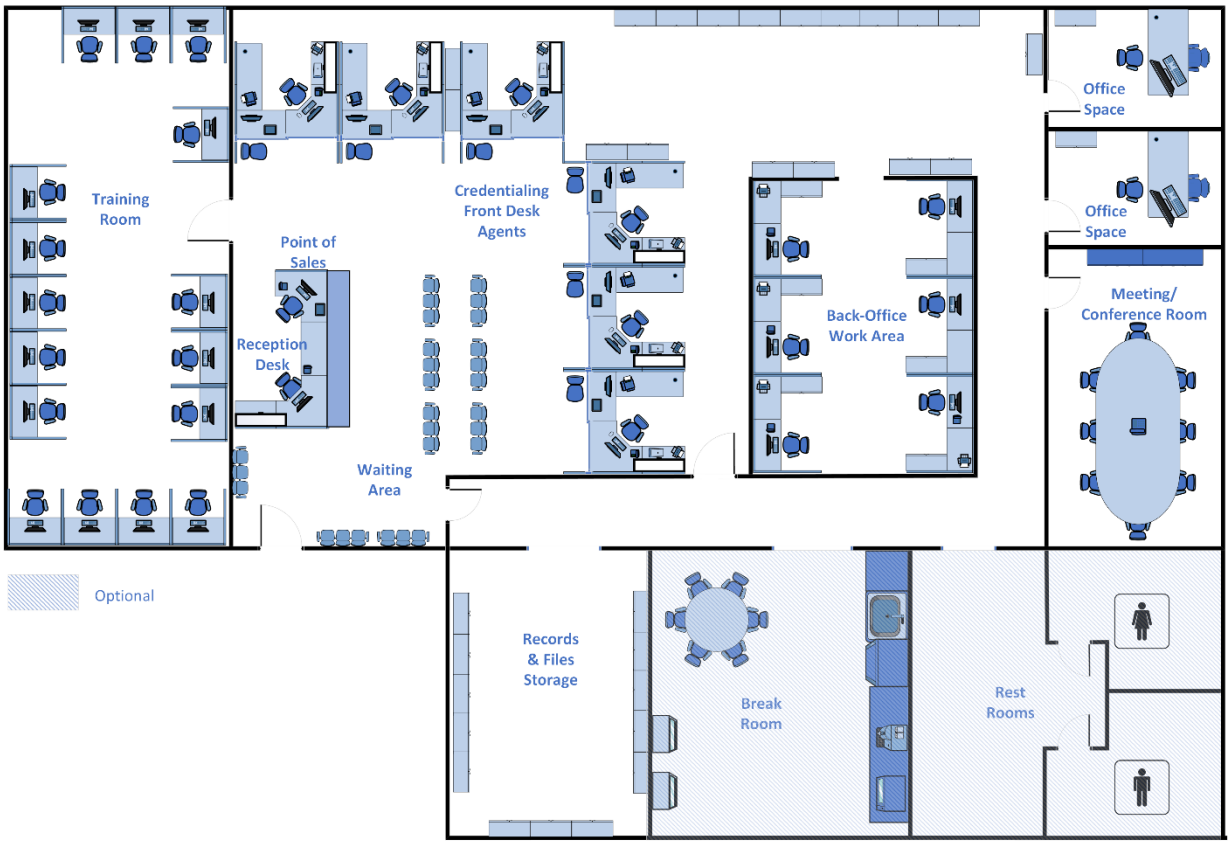
*Includes Training Room and Waiting Room space allocation

FLOOR PLAN

Figures 2-1 through 2-3 show example CO layouts based on airport input. Each layout assumes a trusted agent position-centric design. These examples are general concepts and are not scaled per the above allocation recommendation

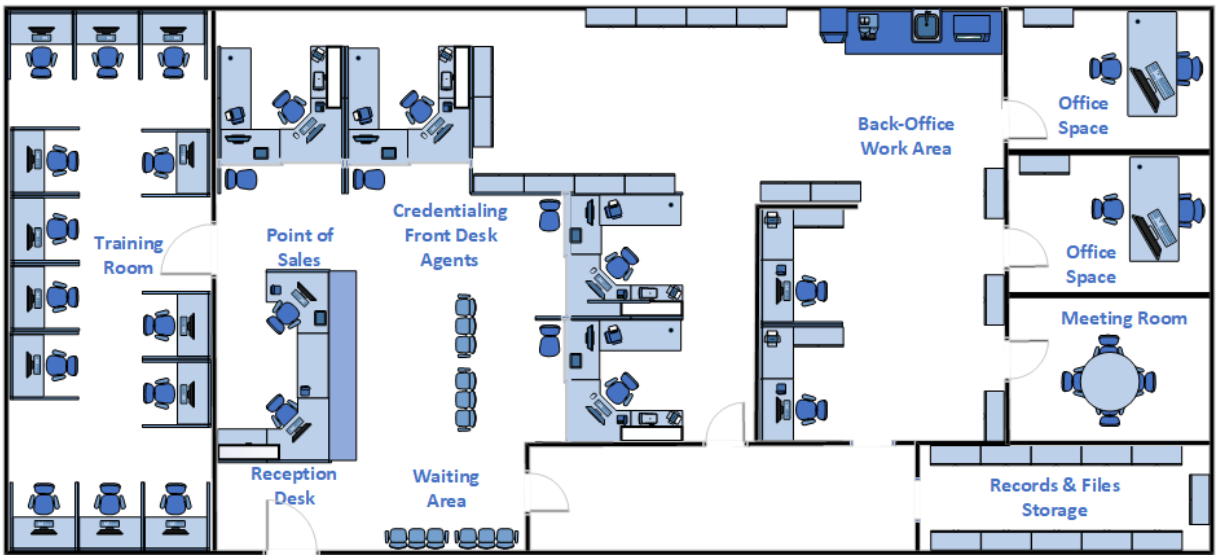
The large hub layout in Figure 2-1 utilizes an open space floor plan for ease of staff circulation. Front desk agents have all required processing equipment within arm's reach. For airports with space available, meeting/conference rooms are shown for consideration, along with a staff break room. Ample back-office space is shown for access control and badging specialists, along with offices with doors for privacy when needed. Separate positions for the reception desk and point of sale (POS) can be designated. Back-office access is secured, and the training room is co-located for easy access. If desired, front desk agents can handle the POS transactions, rather than having a separate position.

Figure 2-1. Large Hub Airport – CO Conceptual Layout



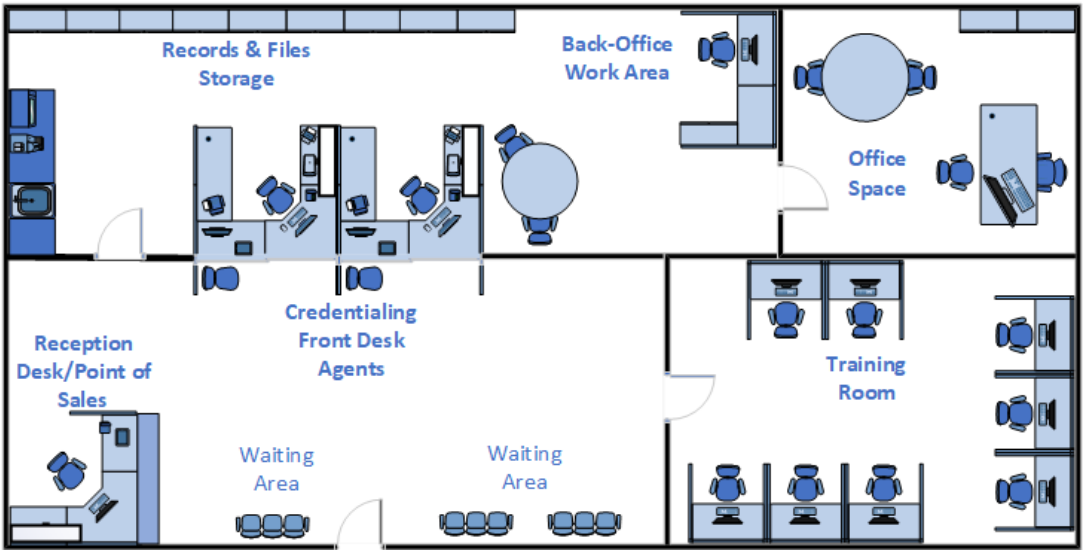
The medium hub layout in Figure 2-2 is similar to the large hub but scaled down accordingly. The number of training positions, front desk and back-office positions, and waiting area size were reduced. A meeting room for staff and small kitchenette are still included.

Figure 2-2. Medium Hub Airport – CO Conceptual Layout



The small hub layout in Figure 2-3 is scaled down further, with more reduction in the number of back-office, front desk, and training positions, and a smaller waiting room area. The meeting room was removed, but a private office space is made available. Due to the smaller traffic volume, the receptionist position can be combined with the POS position.

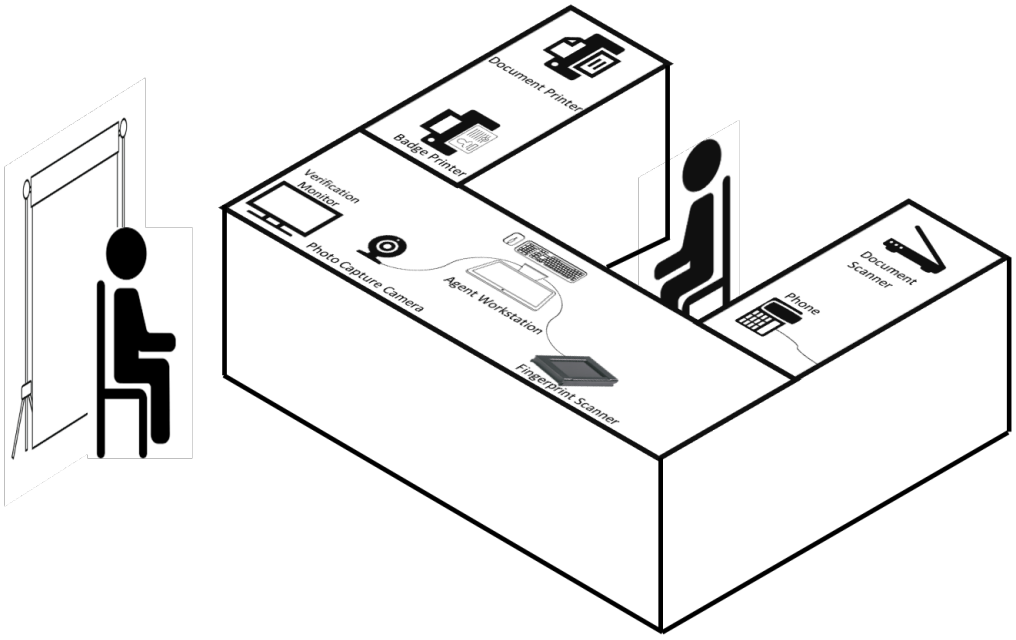
Figure 2-3. Small Hub Airport – CO Conceptual Layout



TRUSTED AGENT POSITION-CENTRIC DESIGN

To increase workflow efficiency within the CO, many airports are moving to a trusted agent position-centric design to minimize the physical movement needed to process applicants. This design ensures that all workstations and peripheral equipment are within arm's reach of the trusted agent, which is recommended to increase workflow efficiency and improve customer service. An example of the configuration is shown in Figure 2-4.

Figure 2-4. Conceptual Position Centric Equipment Layout



LOCATION CONSIDERATIONS

There is no single location that is best for all airport COs. However, there are factors airports can consider to assist in determining the best location for their specific circumstances. Table 2-2 outlines these factors.

Table 2-2. CO Location Evaluation Factors

Factors	Terminal	Non-Terminal
Pros	• Easy access to SIDA areas • Convenient for airport security staff/police and badge holders based in the terminal • Ideal when parking garage is close to the terminal building • Ideal for a small hub airport • Public transportation is more readily available at the terminal building	• Less interruption by the public • Potential to obtain more physical space than at the terminal building • May reduce traveling distance to the CO for badged tenants along the perimeter • Ideal when parking garage is not near the terminal and parking space is made available at non-terminal building • Avoids the traffic and congestion of the terminal building for a large hub airport • Ideal when the security/police office is not located at the terminal building
Cons	• Takes up potentially revenue-generating physical space in the terminal building • Not ideal for a large hub airport where many badged tenants are located on the perimeter of the airport • Not ideal if parking is not available close to the terminal building • Potential for interruptions by the public seeking airport information • Space availability may be less in a non-terminal building	• Longer travel distance for the airline, airport staff, concessionaires, and retail tenant workers that are located at the terminal building • More difficult to coordinate with TSA, CBP, and police if they are located at the terminal building • Longer traveling distance for terminal located workers who currently have parking access by the airport terminal for large hub airports • Public transportation access to the non-terminal building may be limited • Facilities may be limited as compared to the terminal building in terms of support services for CO applicants

REMOTE/ONLINE TRAINING CAPABILITY

Some airports without the option to physically expand are transitioning to CBT at either a remote training facility or online. This reduces traffic at the CO and frees up space. However, not all training can be done online or remotely due to regulatory restrictions, so COs will need to work closely with their local TSA to determine what is allowable.

MINIMIZE IN-PERSON VISITS & QUEUES

Some COs that lack sufficient waiting space have found it useful to only require the Authorized Signatory to attend activities when the physical presence of the applicant is not a regulatory requirement.

For walk-ins, virtual queuing software is available that allows applicants to check in remotely and wait off-site or at a nearby work location until they are closer to the top of the queue.

2.3 Appointments and Scheduling

Considering the unique customer service aspect of COs, proper management of appointments and scheduling can substantially contribute to the efficiency of operations and improve customer satisfaction. This section reviews challenges related to appointments and scheduling, methods airports have used to overcome those challenges, and available alternatives.

2.3.1 Summary of Findings

Airports of all sizes indicated that managing appointments takes a considerable amount of CO staff time, and good scheduling software can substantially improve efficiency. Improvement is primarily achieved through structured appointment times that regulate the arrival of customers, reduction or elimination of wait times, and limiting appointment availability to the existing capacity level of the CO. In addition, if appointment management is pushed to the applicant or Authorized Signatory, the burden on CO staff time is reduced, allowing them to focus on their credentialing duties.

The most common appointment types are new issuance and renewals, but some airports also schedule training and Authorized Signatory appointments. A small number of respondents indicated appointments could be scheduled for other purposes such as adjudication, revocations, citations, and security violations. CO appointments range from fifteen minutes to two and a half hours, with the typical scheduled duration being one hour. Shorter timeframes are for single badging tasks, such as fingerprinting. Longer times are seen at airports that conduct all badging tasks in a single visit, as well as for training appointments, which can take up to two hours.

Of the airports surveyed, 12% indicated they do not take appointments and only accept walk-ins. All medium hub airports surveyed allow appointments, followed by 89% of the large hubs and 78% of the small hubs. A few airports with capabilities for applicants to schedule appointments online still allowed walk-ins, and scheduling via email or phone, which decreases the benefits of the tools.

Of the airports involved in this study, 64% indicated they use an automated appointment scheduling service. Large and medium hub airports are more likely to provide this service. The two primary methods identified for these services are an Authorized Signatory Portal and online scheduling software. The first option can empower Authorized Signatories to fully manage all appointments for all applicants but requires an IDMS, which limits its use. Online scheduling software, on the other hand, has proven to be a cost-effective solution for airports of all sizes, with many commercial-off-the-shelf products available. Since the cost for many of these products is a monthly fee, airports have been able to procure them without a formal solicitation process. However, there was a general lack of awareness of the availability of such inexpensive, online appointment scheduling tools.

Third-party scheduling services are quickly becoming a cost-effective way to manage appointments and schedules for airports of all sizes

"No-shows" were a significant concern to the majority of airports regardless of hub size or method used for appointment scheduling. While one airport did state that it fines the sponsoring company for each no-show, there are generally no repercussions for such behavior.

The Portland International Airport (PDX) case study (Appendix A) demonstrates how appointment and process management can improve CO efficiencies. PDX consolidated all credential issuance processes—application processing, fingerprinting, and training—into one appointment. While appointments are still made through

phone calls or email, the average credential issuance time dropped from 14 to 3 days. TSA approval is required to provide training before badge approval.

The Sarasota Bradenton International Airport (SRQ) case study (Appendix A) demonstrates how the implementation of a cost-effective appointment scheduling system allowed SRQ to eliminate walk-in traffic and match appointment demand to CO capacity. This system allows applicants to schedule their appointments through a portal accessed via the airport website.

2.3.2 Recommendations

AUTOMATE THE APPOINTMENT SCHEDULING PROCESS

Many cost-effective online scheduling tools are available that provide noticeable process improvements with minimal investment. These tools can be used to match the number of appointments scheduled to the CO's capacity to process them on a day-to-day basis.

If an airport is considering purchasing an IDMS, it should ensure that appointment scheduling capability is provided or that it can integrate into a third-party appointment scheduling tool.

CONSIDER MINIMIZING WALK-INS

COs that get a significant number of walk-ins may improved their efficiency through a structured appointment system. Additionally, a virtual queue management tool can be used to better manage walk-ins and reduce waiting area congestion.

IMPLEMENT STRATEGIES TO REDUCE NO-SHOWS

Consider implementing policies and processes to help minimize missed appointments. Email and text reminders may minimize occurrences, and reporting no-show frequency to Authorized Signatories could create better awareness of the problem. Penalties or fines may be needed for extreme cases.

For airports that utilize an appointment scheduling tool, the Authorized Signatory's use should be monitored, and the Authorized Signatory should be held accountable if no-shows and walk-ins are becoming an issue for the CO.

2.4 Authorized Signatory Responsibilities

The Authorized Signatory is an airport tenant or agency employer representative who is the primary point of contact between the employees/badge holders of their company and the CO. This position acts as an extension of the CO staff, and is invaluable in helping the CO coordinate employee security activities. Effective implementation of the Authorized Signatory program at an airport involves documented policies and procedures, thorough training, readily available forms and documentation, and an effective communication methodology. Authorized Signatories need a strong understanding of the program and support from their employer to be successful.

This section focuses on methods for successful Authorized Signatory program implementation and identifying strategies used to ensure Authorized Signatory compliance.

2.4.1 Summary of Findings

While this project did not include input from actual Authorized Signatories, the research team was able to gain an understanding of their dynamics through discussions with CO staff. All airports reported that the Authorized Signatory is a critical piece of their credentialing operations. However, some airports

reported that Authorized Signatories can cause additional work for the CO when they do not consistently or correctly perform their responsibilities. All airports provide specific training for the Authorized Signatory role, but airports that provided additional information and resources to support Authorized Signatory activities experienced fewer issues. While technology solutions can help increase compliance, not all successful programs utilize technology solutions. Policy, documentation, communication, and enforcement were the key factors for success.

The number of Authorized Signatories varies by airport hub size, with the larger airports having the highest numbers. Some airports limit the number of Authorized Signatories that can be approved by the airport, (e.g., one Authorized Signatory for every fifty badged employees), and some require a minimum of two signatories per company to ensure backup is available when needed.

It is presumed that Authorized Signatories have other responsibilities for their employer in addition to credentialing. Enforcement actions by the CO, including positive reinforcement, may sometimes be necessary to ensure appropriate time and attention are given to Authorized Signatory activities in the credentialing process.

Many unique ideas were gathered from airports for the development of their Authorized Signatory program. Because of the dynamic relationship between the CO and the Authorized Signatories, and limited resources available, COs generally develop their own Authorized Signatory program within the parameters of their unique circumstances and TSA requirements.

Increase engagement and community with Authorized Signatories through newsletters and regular communications

To kick off the Authorized Signatory application process, some airports require that the company of the applicant provide a letter endorsing the applicant, signed by a senior or executive-level manager on a company letterhead. The majority of airports interviewed (79%) require the Authorized Signatory to go through the badging process and have an active badge before being approved. The remaining 21% of airports require the Authorized Signatory to go through STA/Criminal History Records Check (CHRC) vetting, even though they are not required to have a badge. Annual Authorized Signatory training is required at all airports.

Authorized Signatory onboarding procedures differ by airport. Some airports conduct in-person training with CO staff; others combine TSA-approved CBT training with an in-person meeting with CO staff; the remaining airports only conduct TSA-approved CBT training. Some airports also provide a welcome packet that includes information on the roles and responsibilities of the Authorized Signatory, and follow up with a call from the CO to go over the material and answer any questions. A few airports have an FAQs list on paper or on their website. One airport indicated that they provide a copy of the badging manual as part of the onboarding, to enable the Authorized Signatory to better understand the entire credentialing process at the airport. Another small hub airport utilizes an in-house produced video for Authorized Signatory training and orientation. One airport stated they provide the Authorized Signatory with a copy of airport security directives as part of the onboarding process.

One airport has recurring monthly meetings with Authorized Signatories. Another airport stated that it provides multiple daily email communications via the IDMS to Authorized Signatories concerning Stop List notices.

Establish a minimum of two Authorized Signatories for every employer, and one for every 50 badged employees

The ability for an Authorized Signatory to effectively identify and request door access, driving, and other airport privileges is important for efficient credentialing processing. The most common challenge identified by airports was related to assigning door privileges.

Most airports have pre-set door access levels for each company at the airport based on operational need. An Authorized Signatory must demonstrate the need for exceptions to the default access levels. Any exception must be approved by an Airport Security Coordinator, airport security director-level staff, or equivalent. The Authorized Signatory can request a specific access level when submitting an application, but only the CO can assign the access levels.

One airport reported that they require company profiles to have assigned door groups with actual door numbers, which Authorized Signatories are supposed to include on their application forms. However, this is not always done, which causes additional work for the trusted agent tasked with reviewing and approving the request. Some airports reported they do not have a company-based profile schema for granting access levels, but rather have to review the specific request by the Authorized Signatory on the application and determine if there is an operational need. Refer to Section 2.5, Leveraging Available Technology, and Section 3.5, Access Privilege Management for more information.

To the extent possible, provide the Authorized Signatory with tools to help them complete their responsibilities

Provide the Authorized Signatory with a complete view of the credentialing process so they are better able to understand their role

2.4.2 Recommendations

DEVELOP FORMAL PROGRAM

To bolster the Authorized Signatory program, develop robust guidelines, onboarding processes, training, and enforcement techniques. The more the roles and activities to support the program are defined and documented, the more effective they will be. Additionally, identify potential activities for the Authorized Signatory to support the CO, such as during periodic internal credentialing audits and the annual TSA audit.

ENHANCE ENGAGEMENT

Maximize use of the Authorized Signatory as the main interface for badge holder/applicant tasks that do not require the applicant's physical presence per TSA regulations. Engaging the Authorized Signatory as an extension of the CO reduces staff demand and increases operational efficiency. If appointments are scheduled through the CO staff, use the Authorized Signatory as the central point of contact for coordination.

CONSIDER POSITIVE REINFORCEMENT

Consider developing methods of publicly recognizing Authorized Signatories for following proper processes. This can be done in newsletters, emails, on the CO website, or through other methods currently utilized to communicate with Authorized Signatories. While repercussions are sometimes needed to address problem areas, positive reinforcement can also be useful in encouraging the desired behaviors.

PROMOTE COMMUNITY

Create a sense of community with Authorized Signatories through regular emails or newsletters. Topical communications and informational notices help to convey the importance of this role. These can be used to notify of upcoming policy or procedure changes, report on general credentialing events, and acknowledge effective Authorized Signatory approaches.

STRENGTHEN EMPLOYER SUPPORT

Build strong engagement with airport employers to support the Authorized Signatory role. When employers understand the importance of the Authorized Signatory in managing their employees' credentials, they will ensure the Authorized Signatory has the necessary time and resources to carry out their responsibilities.

2.5 Leveraging Available Technology

There are a variety of technology solutions available that can assist the CO with more effective and efficient operations. Manual processes require multiple data entries, are prone to errors, and can create bottlenecks when volume increases. Airports generally understand that leveraging technology can assist in these areas and are adapting accordingly.

The research for this challenge area focused on identifying the types of technologies being implemented in COs, as well as adaptation issues or impediments for the use of technology.

2.5.1 Summary of Findings

All airports surveyed utilized some level of available technology. The primary goals identified for technology use were process automation to reduce staff involvement, developing online resources for applicants and Authorized Signatories, and integrating systems to reduce data entry points.

The majority of manual tasks are related to notification and acknowledgment of process completion, and communication of the next step required, whether to the CO, the Authorized Signatory, or the applicant. Managing current contact information and effective communication methods are challenges throughout the life cycle of the badge.

Where staff involvement is required to support appointment scheduling, COs reported a significant loss of time and process efficiency. For this reason, large hub airports that did not have an IDMS stated that their automated scheduling tool is the most valuable tool they have leveraged. Most IDMS utilized by large hub airports have some form of an appointment scheduling tool, but some airports reported the capability was lacking and opted to use a third-party tool. Approximately 71 % of airports indicated they use some sort of software to assist the CO in scheduling appointments for fingerprinting and training, with 54% of those using an online tool.

Lack of systems integration was identified as a primary roadblock to CO efficiency because applicant data had to be entered manually into multiple systems, or the process required manual steps to validate information, such as training completion, before issuing a badge. Data reporting and audit support were

also identified as tasks that could be improved through systems integration. Because many CO reports rely on data from multiple systems, creating reports can be time-consuming. The main reasons that airports identified for systems not being integrated was that one or more of the systems required updating or lacked vendor support. Some airports have been able to integrate systems such as ACS, Designated Aviation Channeler (DAC), and CBT to some extent. An IDMS can help provide integration between systems, but not all airports that have implemented an IDMS have achieved full systems integration.

While an IDMS can provide many benefits, including integration, there are less expensive solutions for data integration

All airports currently utilize a DAC, either standalone, integrated with ACS, or integrated with IDMS.

Approximately 88% of the airports surveyed reported utilizing a system or software to track issued badges. The predominant systems used are the existing ACS's Credential Module and IDMS. Of these airports, 53% reported that the system meets their needs.

Approximately 71% of airports indicated that they track airside driver privileges. Methods used to track these privileges vary. Some airports use the IDMS, some use ACS, and others use a spreadsheet. Those who utilize the IDMS and ACS are satisfied with the solution.

Approximately 88% percent of airports reported they utilize a CBT system for badge and airside driving training. The majority of training is conducted by third-party providers.

For airports that do not have an IDMS, an alternative approach has been to expand the software capabilities of their existing ACS Credential Module to include enhanced badge management features. While this may not address all the major credentialing process workflow, it can still assist in the badge approval process, issuance, and management processes.

ACS vendors are now adding Credential Management features to their solutions in order to compete with IDMS

Most larger hub airport participants reported that they have an IDMS. They stated that IDMS has been useful in eliminating multiple data entries, and making badge holder information easily accessible to CO staff. A key benefit of IDMS is the ability to get built-in notification capabilities for scheduled events, such as badge expirations. IDMS also provides for online applications that can be submitted electronically, as well as automated workflow between Authorized Signatories and the CO. Not all airports with an IDMS have an Authorized Signatory Portal, although an administrator portal is provided by default for CO staff.

One of the important benefits provided by an IDMS is privilege management. Privileges include authorizations such as door access, escorting, driving, and CBP access. An IDMS enables the creation of privileges based on defined groups such as company, division, position, or work responsibilities, and automatically assigns those privileges to an employee when their badge is created. Any privilege that has associated requirements is automatically revoked if the renewal requirements are not met.

The best operational efficiency results were reported by airports with an IDMS that utilizes the Authorized Signatory Portal and is fully integrated with a scheduling tool, CBT, DAC, ACS, and other third-party systems such as the airport's billing system.

A majority of airports have not fully integrated their IDMS with the rest of their security systems to the extent they would like. Some airports purposely phased in capability over time to make it economically practical to address all current and future integration needs. This was cited as a good way to reduce technology implementation risk.

When implementing new technology, use a phased approach to deploy the solution in manageable segments

A few of the small hub airports interviewed are either in the planning stage or process of procuring an IDMS. At a minimum, these airports want the IDMS to integrate with DAC and ACS, and provide or integrate with a scheduling tool. One airport indicated they are not looking for a full-scale IDMS implementation (partly due to limited budget) and are focusing instead on the following capabilities:

- Electronic application (online)
- Electronic scheduling (online)
- Submission of application to Authorized Signatory first for verification and review
- DAC integration

An IDMS provides the highest level of efficiency by eliminating multiple data entry points and automating multiple credentialing processes

2.5.2 Recommendations

EVALUATE CURRENT PROCESSES FOR TECHNOLOGY BENEFITS

When effectively configured and integrated, an IDMS can provide the highest level of operational efficiency, but other more economical solutions exist to meet credentialing needs. COs should evaluate their processes, starting with identifying existing manual processes that would reduce staff involvement if automated, and then look for solutions that will meet those objectives. The key benefits to look for are:

- Online resources that will reduce staff involvement
- Applicant self-service portals
- Automated processes
- Improved Authorized Signatory resources, training, and communications
- Self-service badge renewal automation solutions

Many ACS Credential Modules provide expanded credential management capabilities and integration options. While these solutions are not as robust as an IDMS, they can be significantly less expensive and less involved to develop, and may be an intermediate solution to improve efficiencies until an IDMS can be budgeted and implemented.

Another option is to procure a standalone solution to support online form distribution, completion, and submission, which would reduce staff involvement and improve document management.

INTEGRATE SYSTEMS TO MINIMIZE REDUNDANT DATA ENTRY

Identify where data needs to be shared among systems, and work with integrators and solution providers to develop integrations between those systems. If you are considering a new procurement for an ACS or an IDMS, ensure data integration requirements are defined to support the intended workflow improvements. Collaboration with the airport's IT department will be necessary.

EXPAND REPORTING CAPABILITIES

Poor outcomes of TSA badge audits can result in costly rebadging efforts. Implementing reporting capabilities through the ACS, IDMS, or other solutions and running periodic sample reports can help minimize unaccounted badges. Extending these tools to the Authorized Signatory provides even greater effectiveness for the CO.

UTILIZE ONLINE SCHEDULING TOOLS

Online appointment scheduling was identified as one of the most effective solutions for reducing staff time involved in the credentialing process. There are a variety of solutions available to meet this need. Start by working with the IT department to see if there are solutions already in use by the airport, or help identify new options.

TRANSITION TO ELECTRONIC RECORDS STORAGE

For airports that maintain paper storage files and records, it is advisable to digitize records in electronic form. This can save access time and physical space within the CO. As such it is recommended that airports amend their existing Airport Security Program with the following proposed wording:

> The airport operator must maintain, for badged personnel, an electronic record, paper record, or a comparable records verification system for documents cited in TSA 1542. For TSA review, the airport operator shall make available secure, electronic viewing of the requested documents. If TSA requires access to a paper record, it is allowable for an airport operator to use the respective electronic record as the file source to print a paper record.

Collaboration may be needed with TSA at both the local and headquarters level for amendment approval. Multiple airports have already transitioned to electronic document storage.

DEVELOP COST ESTIMATES

Develop cost estimates and conduct a cost/benefit analysis to determine the optimal solution based on available resources. Table 2-3 provides a rough order of magnitude (ROM) for potential technology solutions. See Section 3.2, Technology Development for additional related information.

Table 2-3. CO Technology Solution Development ROMs

Solution	Benefit	[1]ROM Cost (Small/Medium/Large)
IDMS	Integration of all systems, automation of common tasks, A.S. & employee portals, appointment scheduling	[3]$1M/$2M/$4M
Access Control System – Credential Management	Integration of most systems, data reporting, automation, privilege management	[2]$200K/$300K/$400K
Online Scheduling Service	Portal for employee self-service scheduling	[3]$50K/$70K/$90K [4]$3K/$4K/$6K

Systems Integration	Shared data between systems to reduce data entry, validate status, etc.	[5]$100K/$200K/$300K
On-line Forms Management	Self-service form distribution and submission	[3]$50K/$70K/$90K

NOTES:
1. Cost figures are ROM and will vary based on systems, software licensing, systems involved, number of badge holders, number of users, and other criteria.
2. Cost for add-on modules to existing system(s); ACS, DAC, CBT, STA, etc.
3. Solution one-time on-premises purchase. May require annual support fees.
4. Annual subscription service. May require additional set-up fees.
5. Integrator/Vendor labor. May require additional software licensing.

AIRPORT EMPLOYEE NOTIFICATION OF NEW PROCESSES

With the implementation of new technology, there is nearly always a change in the credentialing process. Ensuring badge holders have ample opportunity to learn about new processes is critical to a smooth transition in processes. Having a well-developed and easily accessible website with basic information is an important resource. Note that information that is designated SSI will need to be restricted and made available after individuals have passed the STA.

PARAS 0020 *Strategies for Effective Airport Identification Media Accountability and Control*[1] outlines additional ways to communicate with airport employees. The document is specifically related to ID media, but discusses methods that are also applicable to the credentialing process.

Case Studies in Appendix A for Baltimore/Washington International Airport (BWI), Wichita Dwight D. Eisenhower National Airport (ICT), Orlando International Airport (MCO), San Antonio International Airport (SAT), Sarasota–Bradenton International Airport (SRQ), and Portland International Airport (PDX) provide examples of how these airports have implemented technology solutions.

2.6 Ensuring Complete and Accurate Submissions

Incomplete and inaccurate submissions can profoundly impact the efficiency of CO operations. Front-line office staff and trusted agents should only be responsible for the final check of information; however their time is often spent correcting and reviewing information that should have been verified by the applicant and Authorized Signatory. This additional review time increases staff time spent per submission and lowers the number of submissions the office can process per day. As such, finding ways to improve the accuracy and completeness of applications and submissions will have a direct positive impact on the CO.

Research for this challenge area focused on understanding the scope of the issue, examining associated responsibilities, and documenting strategies to best address the issue.

2.6.1 Summary of Findings

Overall, 52% of airport participants feel that accuracy and completeness of application forms are a concern. This observation is slightly more dominant at small hub airports (67%) versus large hub airports (50%) and medium hub airports (43%). All airports agreed that CO staff and trusted agents jointly play a role in ensuring accuracy. Almost two-thirds of airports believe the Authorized Signatory

[1] **PARAS 0020:** https://www.sskies.org/images/uploads/subpage/PARAS_0020.IDMediaAccountabilityControl__.FinalReport__.pdf

has primary responsibility for complete and accurate submissions, over one-third of airports believe this responsibility falls to CO staff.

Ensuring Authorized Signatories have been trained on processes and systems can improve the accuracy of submissions

Generally, airports do not track the most common errors made on application forms; only two large and two medium hub airports indicated that they do. Other airports stated that common errors tend to be well known in their offices. Data entry errors, missing or incomplete information, and missing signatures were reported to be common error types, which could mainly be attributed to lack of attention to detail. Many errors can be caught by electronic forms with error checking capabilities. For example, automated field validation can ensure that required fields are filled in, numeric fields have no other character types, and that month, day, and year values are valid. However, this form of error checking cannot eliminate other common application errors, such as:

- Incomplete alias list
- Month and day values not in the correct fields
- Names spelled incorrectly
- Incorrect place of birth or citizenship

Approximately 75% of medium hub airports surveyed utilized electronic forms. This was followed by 50% of the large hub airports, and 12% of the small hub airports. Not all of these forms featured automated error checking. These airports do not view electronic forms as a panacea for application form errors, but rather a quicker method for submission, review, and return (if necessary). Improving Authorized Signatory training and shifting accuracy accountability to the Authorized Signatory have proven to be the most effective methods for improving form accuracy, with one large hub airport indicating they will suspend Authorized Signatory access if challenges persist.

Reviewing existing business processes before deploying a new system can lead to greater operational efficiencies

The case study for SAT in Appendix A demonstrates how the completion of a process review before automation can greatly improve the accuracy and completeness of CO forms.

2.6.2 Recommendations

It can be challenging to make people pay closer attention to detail, but that is the only way to improve the completeness and accuracy of submissions to the CO. Ultimately, it is the responsibility of the applicant and Authorized Signatory to ensure all information provided is complete and accurate. However, the CO can implement the measures detailed below to assist these individuals.

MOTIVATE THE AUTHORIZED SIGNATORIES

Ensuring Authorized Signatories appreciate the important role they play in the submission process can assist with their attention to detail. This can be accomplished through more frequent recurring training to reinforce key elements and review changes to the submission process, or regular communication—

through group emails or newsletters—describing the most common submission errors and how they can be addressed. A newsletter could be used to highlight Authorized Signatories who have a very high degree of accuracy in their submissions.

Informing applicants and Authorized Signatories that incorrect or missing data can result in delays in badging or even denials is a good motivator.

BE CAUTIOUS ABOUT WHAT CO STAFF WILL CORRECT

COs must be cautious of reinforcing negative behavior by correcting incomplete and inaccurate submissions. It may be helpful to develop policies for what the CO staff will correct versus what should be sent back to the Authorized Signatory. Such policies could include processes for tracking organizations that continuously submit applications that are rejected, and putting such organizations on a watch list or probation with appropriate notification. It may be necessary to remove an Authorized Signatory from their role if they do not improve.

LEVERAGE ELECTRONIC FORMS

Development and implementation of electronically fillable forms can be a relatively low-cost solution to help reduce errors and omissions. Electronic forms can ensure data is entered in all required fields and can provide a low level of entry validation. They are not completely effective at eliminating errors, but the ability to quickly correct applications can speed up the process.

Electronic forms can assist with application form completeness and legibility; however, they cannot ensure accurate information is entered (e.g., they can enforce the entry of a first and last name but cannot ensure those names are spelled correctly). As such, the amount of effort committed to electronic form development should be gauged accordingly, unless they are utilized as a part of IDMS. An IDMS can be used to send electronic forms and scanned identification documents for review before submittal. This allows the CO to return the forms for correction if necessary while minimizing visits to the office.

Electronic forms can improve accuracy, but cannot eliminate all errors, so gauge the amount of effort invested accordingly

2.7 Document Verification

Document verification to ensure applicants submit valid identification documents is an important function of the credentialing process. Some airports relegate this responsibility to Authorized Signatories, while most airports assign the responsibility to the CO staff.

The research efforts for this challenge area focused on gathering methods utilized by COs to equip staff with the knowledge and tools needed to efficiently and adequately verify applicants' identity documents.

2.7.1 Summary of Findings

At large and medium hub airports, the COs take on primary responsibility for document verification. Even though they direct Authorized Signatories to verify the applicant's identification documentation, COs verify the documents again when the applicant is in the CO. Small hub airports were evenly split on who took on primary responsibility.

Approximately 95% of airports reported that they provide some form of document verification training to their CO staff. OJT is the most utilized training method. Some airports periodically receive document

verification training from TSA or other law enforcement agencies to support their efforts. Some airports that have international flight operations have an onsite CBP presence that can be utilized for training. Several airports indicated that they have access to industry reference guides, CBP reference handbooks, I-9 Webinar Workshops available on the CBP website, and the TSA Fraudulent ID Manual. It was noted that some small hub airports hired ex-law enforcement personnel, with many years of experience detecting fraudulent identification documents, as trusted agents who also conduct OJT for other CO staff as needed.

Collaborating with CBP on Fraudulent Identification Document Training can provide COs an with additional source of subject matter expertise

The most common methods of document inspection in the industry are the use of blue lights, magnifying glasses, and visual inspection. Several airports indicated they are utilizing specialized identification document scanners that can perform automated verification. One airport mentioned they use such scanners exclusively, and the only training provided is on how to operate the scanners. A few airport COs are collocated with law enforcement officers who provide on-the-spot review of identification documents upon request.

Identification document scanners are automated scanning tools that can greatly enhance staff efficiency

For applicants who are not US citizens, one of the major challenges for the CO is the multitude of identification documents issued by the various countries related to visas and work permits. It can be difficult for CO staff to recognize the many document types since no global formats exist.

Another concern indicated by several airports is that of impostor documents, where applicants use real identification documents that belong to someone else. Of 18 airports responding on this topic, 5 (28%) provide impostor document training, primarily through the CBP. One airport that did not provide regular training reported that they receive periodic impostor scenario training by the CBP. Only a few airports have a published CO operations manual that addresses the topic of fraudulent documents.

The majority of airports (60%) conduct periodic audits of the document verification process.

2.7.2 Recommendations

DEVELOP DOCUMENT VERIFICATION PROCEDURES

Airports that utilize OJT face the risk of losing experienced staff. This risk can be reduced by formally documenting verification procedures in a manual or handbook that describes the steps, techniques, and tools used to support the process. Understanding that such development takes time and resources, a checklist of steps that the CO staff needs to follow could be developed as an interim measure.

Developing checklist of key document verification steps can be an alternative to manual or handbook development if time and resource availability is an issue

DEVELOP FORMALIZED TRAINING

Formalized training for every staff member, along with recurring annual training, will allow staff to learn about evolving fraudulent and impostor document detection techniques utilized within the airport industry. Training can address required procedures, along with tools and techniques to support the process. Training could be conducted online or in-person, and may also be offered to Authorized Signatories.

Having on-site collaboration with TSA and/or CBP would be ideal as both agencies must keep up on fraudulent document techniques and ways to thwart them. Additionally, CBP has a website called I-9 Central that is a useful resource for training on I-9 forms.

Formally training Authorized Signatories on document verification techniques can further mitigate risk

LEVERAGE IDENTIFICATION DOCUMENT SCANNERS

Several airports have begun utilizing identification document scanners that can detect fraudulent documents and automatically (with a green or red-light indicator) alert the staff. These scanners are similar to the Credential Authentication Technology scanners utilized by TSA at security checkpoints. The scanner technology can support a variety of identification documents, including driver licenses and ID cards, passports, and other similar documents that people use as proof of identity.

LEVERAGE INDUSTRY GUIDANCE AND COLLABORATION

Domestic and international guidebooks on document verification are available from an assortment of service providers. One airport surveyed indicated they subscribe to an international guide that provides comprehensive information about international ID documents, covering major countries worldwide and including hundreds of driver licenses and identity cards. These services require a subscription and are only available to government-related agencies such as airports.

Additionally, airport COs should collaborate with their local and state law enforcement agencies to learn what resources and tools they use. These agencies may share or make some form of training available to the CO.

2.8 Applicant Assistance

Some applicants may need assistance or accommodations to complete the credentialing process. Although it is not a common topic in airport credentialing discussions, some understanding of potentially unmet needs is important to identify areas for improvement.

The primary research objective for this challenge area was to identify gaps where resources may be needed to improve operational efficiency when working with applicants who need additional assistance.

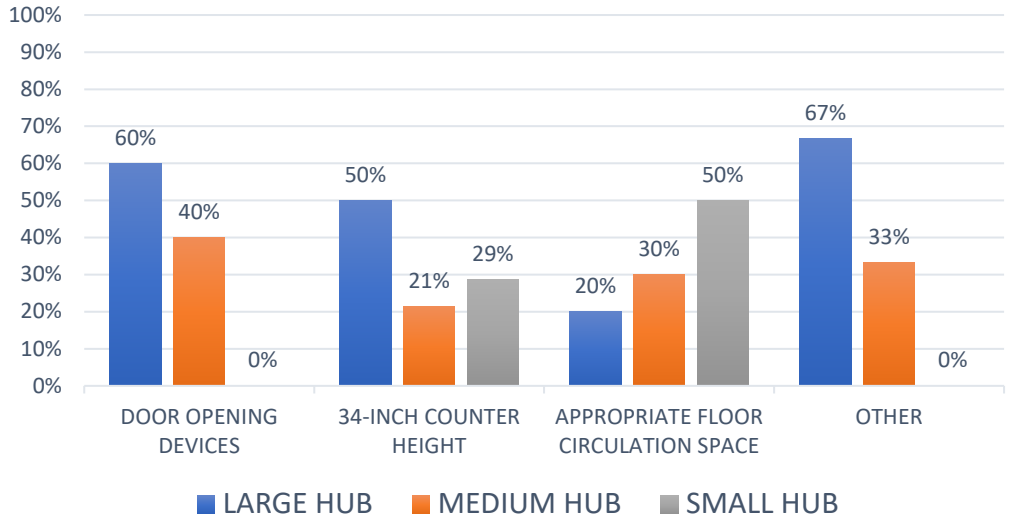
2.8.1 Summary of Findings

Individuals applying for an airport credential may not be fluent in English. Of the airports that offer credentialing services in additional languages, Spanish was the most popular language reported. This option was provided by 44% of large hub, 50% of medium hub, and 33% of small hub respondents. The majority were located in California and Florida. Around 22% of the large hub and 17% of the medium

hub airports provided support in other languages, including Italian, Creole, Albanian, Cantonese, Japanese, Somali, and Ethiopian.

Physical accommodations may also be needed for some individuals. Most airports (71%) do not provide any ADA-related training to their CO staff. However, the majority provide some sort of accommodation for persons using wheelchairs or other movement-assistance devices. These include automatic door opening devices, lowered counter height, appropriate floor spacing, designated parking stalls, unobstructed curbside ingress/egress, ramps, customized training desks, and lowered camera height. See Figure 2-5 for details.

Figure 2-5. Airports Offering Wheelchair-Related Accommodations by Hub Size



Just a few (10%) of mostly large and medium hub airports indicated they provide documents in large print.

2.8.2 Recommendations

LANGUAGE ASSISTANCE

Where there is a substantial employee base whose primary language is not English, developing applications or instructions in those languages helps to ensure accurate information and documentation are provided in the application process. At a minimum, it would be helpful to have multilingual staff members where appropriate and possible.

ACCESSIBILITY NEEDS

Consider accessibility conditions for the application process, from facility access to training resources and biometric capture, and develop appropriate conditions for at least one credentialing workstation to accommodate these needs.

2.9 Forms and Instructions

The credential application form is used by most airports to not only capture the biographical information of the applicant, but also to affirm the roles and responsibilities of the badge holder once a badge is issued. The fingerprint application form starts the process for the STA and CHRC, and requires the applicant to identify prior criminal history.

The research objectives for this challenge area were to identify the various methods used by airports to collect applicant data, and to help the CO modify forms to improve processing efficiencies.

2.9.1 Summary of Findings

Many airports indicated that they use multiple forms for various application processes, rather than a single, comprehensive form. The major credentialing process forms utilized by COs are:

- New Company Letter
- Badge Application
- Fingerprint Application
- Acceptable Identification
- Authorized Signatory Application
- Custom Seal Badge Application

Where possible, reducing the number of applicant forms can help reduce or eliminate redundant data entry and streamline the application process

As expected, the forms are not identical across all airports, but the basic information requested from applicants is generally the same. The Badge Application is used by the majority of airports to capture the biographical information of the applicant as well as affirm the roles and responsibilities of the badge holder once a badge is issued. Additionally, the Fingerprint Application form includes a section affirming the applicant has not been convicted of the disqualifying crimes listed.

Some airports combine the Fingerprint Application with the Badge Application form, and some also include the Acceptable Identification document. Some Badge Applications explicitly require the Authorized Signatory to sign the application, while others do not. Additionally, some airports have a Badge Renewal Application form that is separate from a new Badge Application.

Most airports use PDF documents for application forms (82%) and for communicating ID requirements (93%); these can be found on the airport website. However, only a small number of airports allow for electronic submission of applications either via the customer portal or email. The most common application form type is a fillable PDF that is printed and physically delivered to the CO.

One benefit derived from these fillable PDF documents is ensuring that mandatory fields are completed and are in the proper format. However, fillable PDF documents cannot provide error or accuracy checking of the content provided. This also holds for fillable electronic IDMS Badge Applications. The benefit of having an IDMS, however, is that the forms can be electronically submitted to the CO or returned to the Authorized Signatory quickly.

2.9.2 Recommendations

DEVELOP ELECTRONICALLY FILLABLE FORMS

From the industry survey, it is evident that handwritten forms result in data entry errors and reduced operational efficiency. Developing fillable PDF forms helps to reduce those errors and provides the ability to control some of the field inputs for better data consistency.

DEVELOP ELECTRONIC FORMS SUBMISSION

While electronic form submission is best managed through an IDMS, some solutions do not require an IDMS.

Allowing electronic signatures may require airport policy changes, but it can provide advantages such as reduced application times, improved security for applicants' information, and greater document management capabilities.

Work with local TSA to develop electronic forms submission and storage solutions

UNIFY FORMS TO MINIMIZE DOCUMENTS

The majority of forms could likely be combined into one universal document to increase efficiency in the application process, as well as reduce paperwork and multiple data entries. Whether in hardcopy or electronic format, merging application forms has been shown to improve operational efficiency and simplify the application process for the user.

PROVIDE SUPPLEMENTAL INFORMATION

Navigating the processes and understanding the required information can be daunting for applicants. While some basic information should be available on the airport's website, other information is not appropriate to distribute until various processes and approvals are complete. Distributing relevant information along with their corresponding forms is important for keeping employees on track and ensuring the necessary information is captured.

Along with the basic biographical forms, criminal history, and acceptable identity document information, the following are examples of supplemental information and acknowledgments that can be provided to applicants:

- Airport Security Responsibilities Agreement
- Terms and Conditions of Badge Holder Agreement
- Driving Responsibilities Agreement
- Important Airport Contact Information
- Prohibited Items Acknowledgement
- Escort Procedures
- Tool and Equipment Control Protocol

See Case Studies (Appendix A) for BWI, ICT, SAT, SRQ, and PDX for examples of how these airports developed their application forms.

2.10 Relevant Metrics and Reporting

Metrics can assist the airport in measuring how well it is meeting its operational business objectives and identifying areas for improvement. The research efforts for this challenge area focused on determining how captured data is used by airports and identifying additional opportunities for reporting.

2.10.1 Summary of Findings

Approximately 68% of airports provide periodic metric reporting for CO internal management purposes. While there appears to be a direct correlation between airport hub size and metric reporting, there was no common theme regarding the types of data collected and reported to gain efficiency.

Depending on their level of automation, COs tend to utilize several sources to capture data needed to support their identified metrics, including the ACS, DAC, and IDMS. Some airports also reported sourcing data from their appointment scheduling tool or appointment logbooks. Three common methods were reported for capturing data:

- Fully manual data capture such as logbooks or spreadsheets, with no systems providing actual metric data
- Partially automated data capture via a DAC, ACS, CBT, or appointment scheduling software in combination with some manual calculations or spreadsheet usage
- Fully automated in which, at a minimum, an IDMS was integrated with the ACS, CBT, and DAC with electronic data submission. Some airports utilized the reporting capabilities of the IDMS or exported the reports to a Business Intelligence (BI)/Analytics tool or spreadsheet for any further customization.

Excel was the most common tool identified for generating reports, but some airports utilize third-party reporting tools. One airport indicated they have the IT department report the metrics on a dashboard.

Below is a comprehensive list of metrics reported by airports. Please note that this list is a compilation of all survey responses, and no single respondent utilizes the complete list.

- Number of active badge holders (badge population)
- Number of new badge applications processed
- Number of badge renewals processed
- Number of badge types processed
- Number of badge-related issues (i.e., badges that require CO attention)
- Number of lost badges
- Number of stolen badges
- Stop list (daily)
- Number of CBP seals processed
- Number of background checks processed (both STA/CHRC) – including the number of pass and number of fail
- Number of adjudications processed
- Number of average STA wait times
- Number of Authorized Signatory applications – including the number of pass and number of fail
- Number of upcoming badge expirations in the next 30–60 days
- Number of daily badge expirations – beyond the grace period allowed (for selected date range)
- Average service time to process an application, from receipt of application to badge being issued
- Number of scheduled appointments – fingerprint and training appointments – including no-shows and cancellations (for selected date range)
- Number of walk-ins processed

- Number of vehicle permit transactions
- Number of badges with escort privileges issued (by company)
- Unused badges (for selected date range)

The majority of metrics listed above were reported by airports with an IDMS or an ACS with extensive badge management reporting capability that is integrated with the DAC and CBT. For the most part, large hub airports and a few of the larger medium hub airports were best equipped to provide such a level of metrics reporting. However, some airports with an IDMS indicated that generating reports is still not easy.

Large hub airports had the highest participation rate of any hub size category in the reporting of metrics, with over 50% of those utilizing fully automated methods and only 12% using fully manual methods. Of medium hub airports, 80% utilized either a partially or fully automated environment (evenly split). Small hub airports had the lowest rate of metrics reporting, and those that did report metrics used a partially automated process. Small hub airports that do not participate in metric reporting indicated that they share trends informally within the CO.

Since reporting metrics is a function of properly capturing the required data, it was noted that many airports have operational data silos that are not centralized in a common platform. This means staff has to manually extract and transfer data to the appropriate reporting format.

2.10.2 Recommendations

DEVELOP CO METRICS & DEFINE THE PRIMARY SOURCE OF DATA

Table 2-4 lists suggested metrics and the typical primary source of the corresponding data. The frequency of reporting should be determined and agreed upon by each airport based on their unique needs. Daily reporting may be useful for some metrics, such as active badge count or stop lists. Weekly or monthly may be more appropriate for others, such as number of new badge applications or number of no-shows.

Table 2-4. Recommended Reporting Metrics

Metric	Sources of Data	Notes
Number of active badge holders	ACS, IDMS, or Logbook	1
Number of new badge applications processed	ACS, IDMS, or Logbook	1
Number of badge renewals processed	ACS or IDMS	2
Number of badge types processed	ACS or IDMS	2
Number of badge-related issues (i.e., badges that require CO attention)	ACS or Logbook	—
Number of lost badges	ACS or IDMS	2
Number of stolen badges	ACS or IDMS	2
Stop list	IDMS or Logbook	—
Number of CBP seals processed	IDMS or DAC	3
Number of background checks processed (both STA/CHRC) – grouped by pass/fail	IDMS or DAC	3
Number of Adjudications processed	IDMS or DAC	3

Metric	Sources of Data	Notes
Average STA wait times	IDMS or DAC	3
Number of Authorized Signatory applications grouped by pass/fail	IDMS or DAC	3
Number of upcoming badge expirations (next 30–60 days)	ACS or IDMS	2
Number of badge expirations – beyond the grace period allowed (for selected date range)	ACS or IDMS	2
Average service time to process applicants, from receipt of application to badge being issued	IDMS or Logbook	—
Number of scheduled appointments (fingerprint and training) – including no-shows and cancellations (for selected date range)	IDMS, Logbook, or Appointment Scheduling System	4
Number of walk-ins	IDMS, Logbook, or Appointment Scheduling System	4
Number of vehicle permit transactions	ACS, IDMS, or Logbook	1
Number of badges with escort privileges issued (by company)	ACS, IDMS, or Logbook	1
Unused badges (for selected date range)	ACS or IDMS	2

Notes:
1 - ACS can be used as a database. An IDMS can also import data from the ACS. An alternative method is a logbook such as a spreadsheet or external database.
2 - ACS is typically the primary source of data. If IDMS is integrated into the ACS, the IDMS can track the data.
3 - IDMS is typically the primary source of data. The DAC is an alternative for airports without IDMS.
4 - IDMS or a logbook is typically the primary source of data and the Appointment Scheduling System is secondary.

DOCUMENT TREND DISCUSSIONS

When formal reporting is not feasible due to lack of resources or level of automation, weekly or monthly meetings can be conducted to discuss trends that may require immediate changes or further monitoring. A detailed meeting agenda can be distributed in advance so team members arrive prepared to discuss known issues/trends, including potential solutions or mitigation measures. The agenda should also reserve time for discussion of new or urgent issues. Meeting minutes, including resulting action items and process changes, should be documented and distributed to all team members. Each action item should indicate the staff member responsible for it and any associated timeframe/due date.

OPTIMIZE AUTOMATION FOR METRIC REPORTING

If data silos exist and credentialing systems are not able to share data, manual intervention by the credentialing staff will be required to produce metric reports. As such, it is important to understand the CO's data needs and reporting requirements when considering new technologies. This effort requires close collaboration with the airport's IT department, particularly when integrating disparate systems from different vendors. A system's ability to export data via industry-standard interfaces is paramount. Legacy ACS systems are often proprietary and difficult to integrate with a CBT or DAC system.

Following are the three most common integration strategies airports use to optimize their CO business processes and reporting.

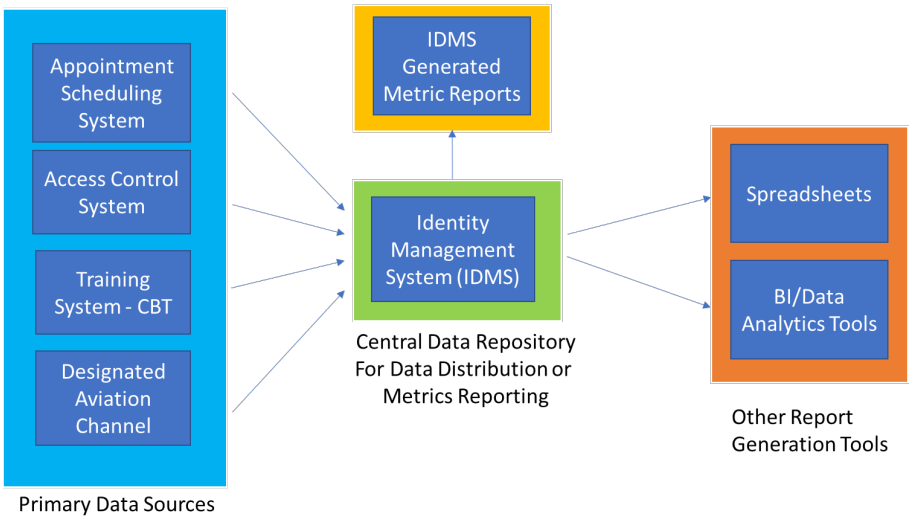
Scenario #1: IDMS as a Centralized Metric Reporting Platform

For large hub and larger medium hub airports, having a centralized integrated credentialing systems platform provides optimum automation and efficiency for capturing and reporting metrics. In this scenario, an IDMS is used as the central data collection hub, receiving data from the ACS, appointment

scheduling system, CBT system, and DAC. The IDMS has the capability to generate reports or export the selected data files to other report generation tools, such as Excel or BI/analytics software.

Even though each independent source system may have local report generation capability, designating the IDMS as the centralized metric-reporting system allows credentialing staff to interface with one system instead of many. This scenario is depicted in Figure 2-6.

Figure 2-6. Scenario #1: IDMS as a Centralized Metric Reporting Platform

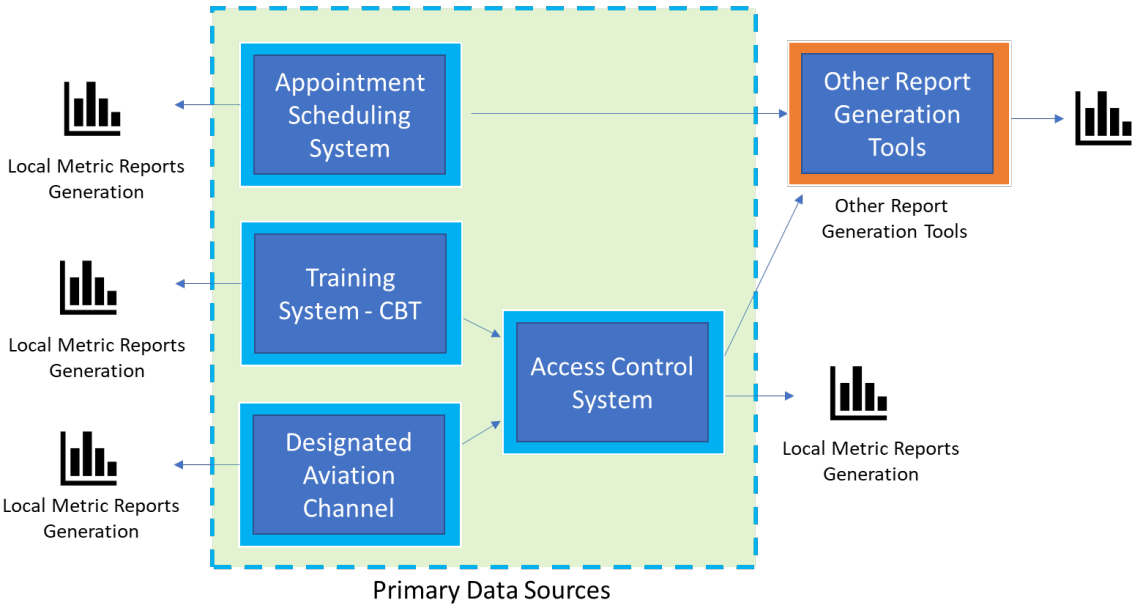


Scenario #2: ACS with CBT and DAC Integration – No IDMS

For most medium hub and larger small hub airports, having the ACS integrated with the CBT system and the DAC would provide optimum automation and efficiency for capturing and reporting metrics. In this scenario, the ACS serves as the central data collection hub, receiving data from the CBT and DAC. The ACS has the capability to then generate reports or export the selected data files to other reporting tools. Most airports do not integrate the appointment scheduling system with the ACS, so it is assumed that this will remain as a standalone data source. This scenario assumes that the ACS credentialing software has extensive credentialing management capabilities.

While each data source can independently generate local reports, utilizing the ACS as the central repository of data minimizes the number of systems requiring staff interaction. This scenario is depicted in Figure 2-7.

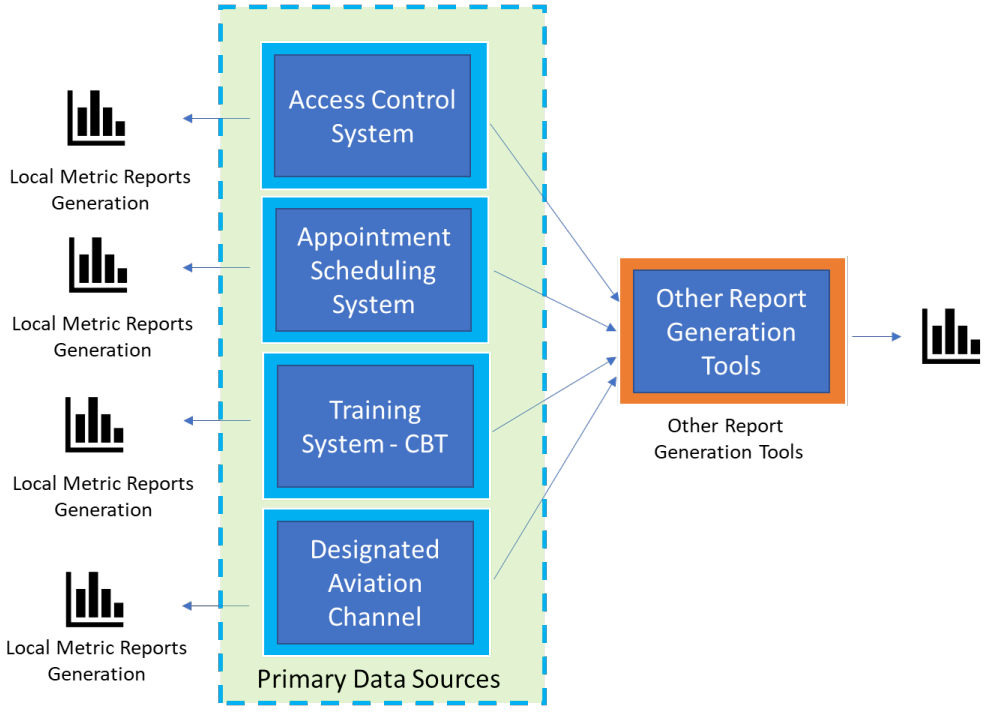
Figure 2-7. Scenario #2: ACS with CBT and DAC Integration – No IDMS



Scenario #3 – Multiple Data Silos – No Integration

For airports that cannot justify integrating the various core credentialing systems, each independent data source system will generate its own metric reports. In most cases, the available reporting is sufficient, but interfacing with each system individually can become cumbersome and time-consuming for the CO staff. If customized reports are needed, the data may have to be extracted from more than one data source and manually imported to a third-party report generation tool (e.g., Excel). This scenario involves the most manual interaction by the credentialing staff to generate metric reports, and is depicted below in Figure 2-8.

Figure 2-8. Scenario #3: Multiple Data Silos – No Integration



VISUALIZE REPORTING

Rather than using tables or spreadsheets, several of the airports that participated in this research report metrics with graphs and charts see trends and patterns. Figures 2-9 through 2-11 are graphical representations of some sample airport metric reports utilized by airports.

Figure 2-9. Monthly Arrivals and No-Shows Dashboard

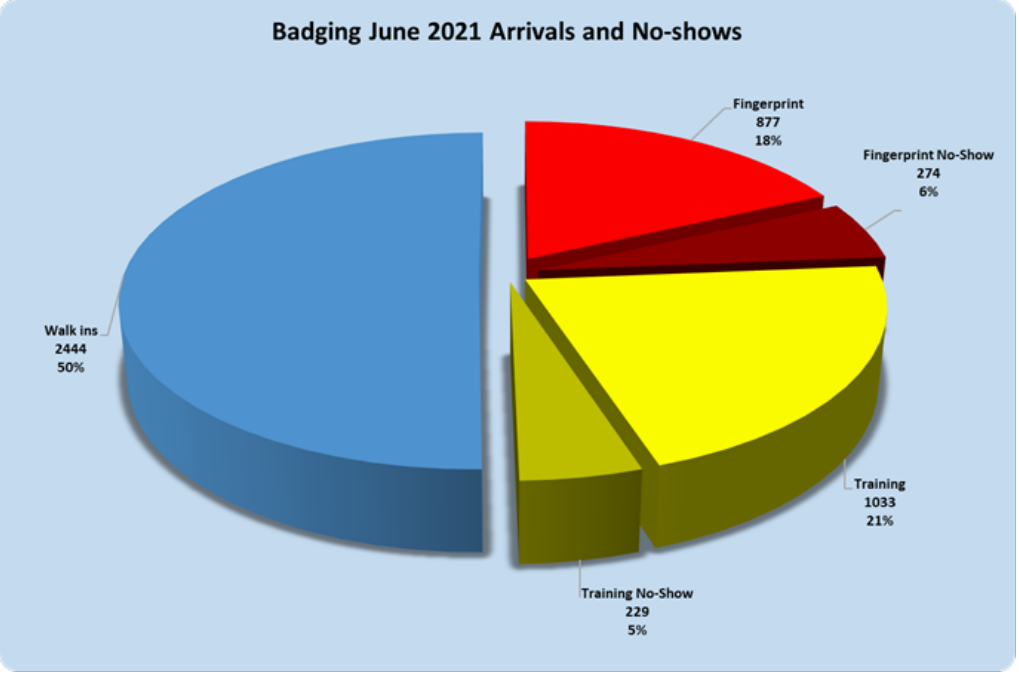


Figure 2-10. Monthly Badge Statistical Report

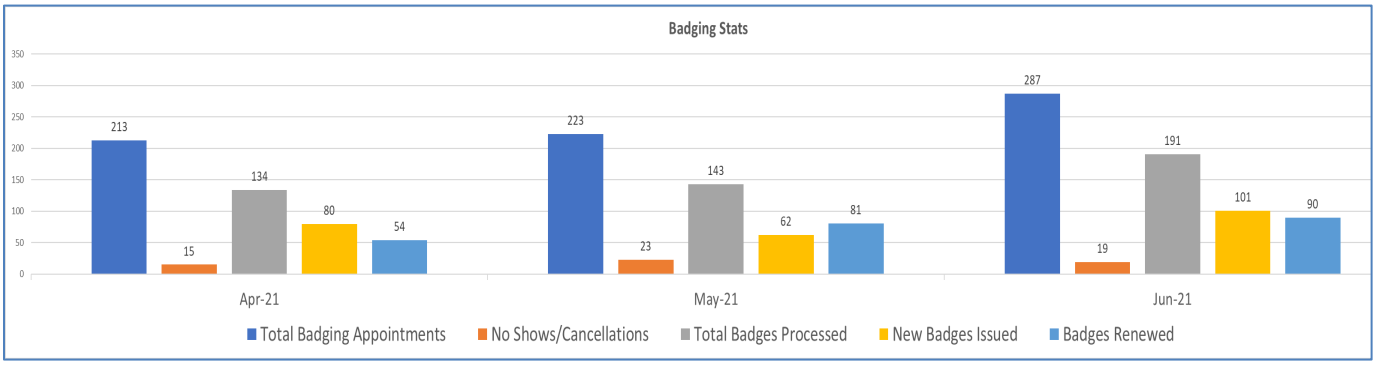
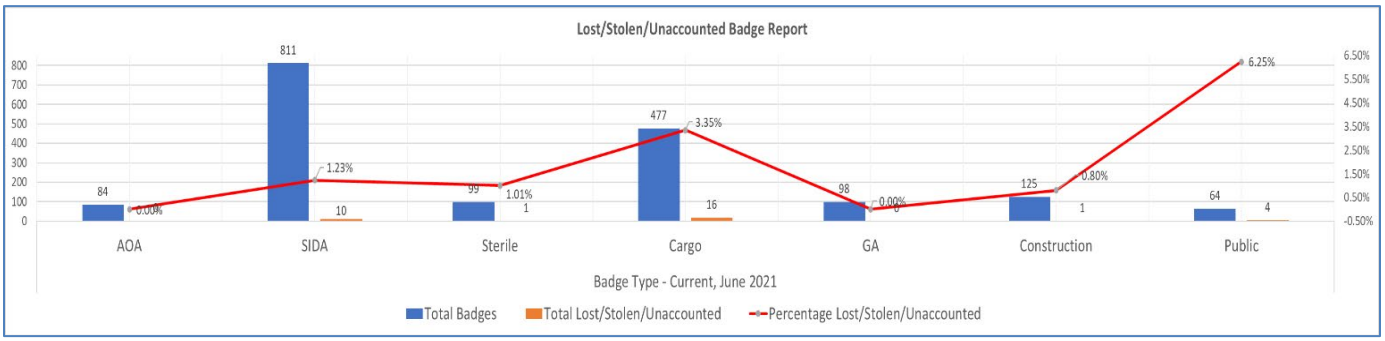


Figure 2-11. Monthly Lost/Stolen/Unaccounted Badge Report



Badge Totals - Current as of June 2021	
Total Issued	**1,758**
Total Unaccounted	**32**
Unaccounted %	**1.82%**

While most do not utilize a central display, such as a dashboard, to depict report progress across key performance indicators (KPI), doing so could provide all levels of management with important performance trends to help optimize efficiency and identify potential issues.

Developing such a dashboard may be beyond the capabilities of an airport's existing systems (IDMS or ACS), thus requiring a third-party BI/analytic tool. An example dashboard that can be created with such a tool is shown in Figure 2-12, and depicts several important KPIs for a CO. It provides the overall performance of the CO during the current month, and the key individual trends and metrics for major KPIs being measured, such as level of customer satisfaction. A dashboard can be tailored to the individual airport's business objectives and goals.

Figure 2-12. CO Monthly Metric KPI Report – Dashboard Sample

2.11 Supporting Airport Peer Communications

The CO is a dynamic environment. Credentialing staff view communication with their peers at other airports as an important way to understand and adapt to regulatory and process changes, as well as explore new ideas for optimization. This is especially true for less experienced CO staff.

The research effort for this challenge area focused on strategies that airports can utilize to expand peer communications and further promote industry collaboration.

2.11.1 Summary of Findings

Communication occurs between airports of all sizes in both formal and informal ways. Industry conferences, regional airport networks, and vendor user meetings were the most commonly mentioned formal methods. Airports indicated these were beneficial for gathering feedback on potential process changes, comparing experiences with technology solutions from various vendors, and discussing the implications of new directives or regulations. Most airports interviewed have also established informal networks with other airports. Some airports have an open line of communications with neighboring airports to discuss a wide variety of issues (e.g., California airports, Florida airports, and Northwest airports).

Discussions with local and regional airports and attending airport security-related conferences are among the best ways for CO staff to enhance its peer communications

The ability of CO staff members to participate in industry meetings and conferences, particularly on-site meetings that require travel, is often dependent on available budget and staff. This can limit small hub airports in particular.

Airports of all sizes felt that a central source of information-sharing on airport credentialing would be of value. While industry associations offer a potential platform for this resource, membership in these associations comes at a cost that may limit participation for some airports.

2.11.2 Recommendations

BUDGET FOR INDUSTRY MEETINGS AND CONFERENCES IN ADVANCE

When possible, allocate funding annually to allow key credentialing staff members to physically or virtually attend relevant airport industry meetings. These meetings and conferences enable discussion and problem solving among industry peers, as well as assist staff members in bolstering a peer network that can be leveraged when needed. Security-related committee meetings at both the national and regional level should be prioritized. Industry associations (such as American Association of Airport Executives [AAAE] and/or Airports Council International – North America [ACI-NA]) have security-related forums where credentialing topics are frequently addressed. Although conference and meeting attendance may divert hours from normal duties, it is a worthwhile investment for credentialing staff.

ESTABLISH A CENTRALIZED INFORMATION HUB ON AIRPORT CREDENTIALING

The industry lacks a common information-sharing repository that any airport credentialing staff member can access at no cost. To address this need, airports, industry associations, and relevant stakeholders might consider establishing a centralized information hub. Credentialing staff could utilize the hub to share and access news, relevant documents, best practices, trends and challenges, and information regarding federal

regulations and mandates. The site could also serve as an online forum that enables discussion and contributions from community members.

2.12 Effectively Implementing New Processes

CO staff require efficient and effective processes to successfully navigate their daily tasks. Without clearly documented processes, staff may struggle to understand their roles and responsibilities within the organization. Since credentialing operations are continuously evolving, implementing new processes becomes a periodic business exercise within the CO.

The research efforts for this challenge area focused on identifying and determining the effectiveness of common best practices utilized by airports for implementing new processes.

2.12.1 Summary of Findings

Changes to CO processes are typically implemented due to a new security directive, or a technology or system procurement. As such, the majority of airports generally improve business processes incrementally as needed.

Large hub airports and some larger medium hub airports implement new processes and documents though formal methods such as business process reviews, workflow mapping, and bottleneck identification. Large airports also reviewed and updated their processes for the implementation of an IDMS, which required airports to redesign their processes to support the IDMS automations. One airport that customized their IDMS to their existing processes learned that the level of customization required increased the procurement cost and caused project delays. The airport admitted it would have been more cost-effective if it had taken the time to better understand the features and capabilities of the IDMS, and then redesigned its processes to support the IDMS.

Small hub and some smaller medium hub airports primarily utilize informal process implementation methods to update internal processes and resolve issues. While regular, formal staff meetings are also used to gather feedback, small group discussions and face-to-face personal interaction was much more common for these airports.

No airport indicated they perform periodic business process reviews/audits. One large airport stated that they formally evaluated their business processes several years ago and used that information as a baseline for future improvements, but this was not a recurring review.

All airports indicated that they document their procedures either in a CO manual or as part of their airport security operating procedures. The majority of airports stated that process documentation is typically developed after implementation of the process.

2.12.2 Recommendations

MAKE THE PROCESS A STRATEGIC FOCUS

Emphasizing the reason for a new or changed process and its strategic importance to the credentialing operations is key to successful process implementation. This can be done through identifying it as a key initiative related to the airport security organization’s goals and objectives, and assigning a senior management sponsor who will be responsible for ensuring the success of the initiative.

PROMOTE CONTINUAL IMPROVEMENT

Management should expect work processes to change repeatedly as the credentialing operation evolves. But if staff is not kept in the loop, the continuous change could be frustrating or defeating, leading to lower morale and decreased productivity. As changes are implemented, inform staff that the processes will be continuously improved, and invite them to participate by evaluating the changes and providing feedback regularly. When employees know what to expect and feel part of the solution, they will be more likely to buy into new processes and actively participate in improving them further. Consider, at a minimum, a formal annual review of existing processes with a focus on improvement.

ESTABLISH CLEAR COMMUNICATIONS

Clear communications are essential for a smooth transition to new processes. As the CO introduces new processes, explain why the change is necessary, what goals the CO management hopes to achieve with these changes, and what benefits these new processes will have for the operations and staff. When CO management can explain the reason behind a process change that significantly impacts day-to-day workflows, staff will be more likely to understand the need for the change and get behind it.

CONSIDER ORGANIZATIONAL CULTURE

How will this change impact the CO's culture? Will organizational values need to change to accommodate this new process? For example, if the organization has rewarded *action* over *process*, that core value may need to be adjusted to encourage adherence to the new process. The senior management team is typically responsible for this aspect of process implementation

REVIEW THE ORGANIZATIONAL STRUCTURE

Management should consider whether the existing CO's organizational model supports the implementation of the new processes. This becomes particularly important as automation is introduced within the organization, as it will potentially change the existing workflow model.

PROVIDE AMPLE TIME FOR REVIEW AND FEEDBACK

Different staff members will have dissimilar needs when it comes to hearing about and getting on board with changes. To support staff, it is important to document any new process and distribute it to the team for their review. Give staff time to think about the new process and ask questions to clarify any misunderstandings. Management may draw parallels to existing processes to help staff understand how the new process differs from what is already in place, or allow CO staff to make suggestions for improvements.

ADAPT STAFF TRAINING AS REQUIRED

Assess the CO's current state in terms of its people, processes, and resources. Which employees will be executing the new process, what are their current skills and knowledge, and what tools are available to support this transition? Once the current process landscape is understood, training can be designed to effectively address staff needs, fill gaps in skillsets or knowledge, and provide the tools and resources necessary for their success.

For example, if the CO is adopting new software to automate part of the trusted agent workflow, management will need to ensure trusted agents have the knowledge and training to navigate the software and integrate it into their workflow, as well as the technical support to troubleshoot any issues. If they do not have these resources, they will be less likely to accept the new software and may implement workarounds when issues arise.

2.13 Forecasting and Future Planning for Demand

CO staffing demand is directly impacted by changes in airport operations, airport development projects, and tenant growth. As such, airports face a dynamic environment in terms of efficiently meeting the CO staffing demand. The research efforts for this challenge area focused on methods to plan for and manage staff demand to increase operational efficiency.

The most common method for managing demand was to constrain it by utilizing an online scheduling tool to match demand to capacity. Airports without an online scheduling tool utilized a variety of methods to assist the CO in managing a sudden surge in demand:

- Planned staff rotation through shifts
- Requiring mandatory Authorized Signatory portal usage (for those with an IDMS)
- Strategically planning time off
- Working on weekends
- Scheduling the surge in demand (caused by large groups) on a dedicated day separate from everyday applicants. For example, some COs that were normally closed on a Friday opened their office on a Friday to accommodate the large group.
- Opening the CO earlier than normal
- Conduct mass fingerprinting or training
- Requiring scheduling of an appointment two weeks in advance to provide the CO with a fourteen-day forecast
- Allowing credentialing staff to work overtime in support of major terminal construction projects. (Airports noted this has been less of an option during COVID-19 due to staffing shortages and work-from-home arrangements.)
- Spread out the surge in demand over a couple of weeks
- Have backup operations staff who are cross-trained to assist the CO when necessary, including the use of part-time staff

Through participation in airport department meetings, all COs felt they are well informed about large projects or initiatives that could create additional credentialing applicant demand.

In addition to the CO process adjustments used to manage variable demand caused by large capital projects, more consideration is being given to minimizing the number of badged workers needed by construction contractors. Project sites are often planned to minimize airside exposure, and supervisors may be given authorization to escort their personnel in restricted areas. See PARAS 0037 – *Planning and Operational Security Guidance for Construction Projects at Airports*[2] for more information.

STAFF FORECASTING TOOL

Only one airport indicated that it has a staff forecasting tool to forecast future demand. Approximately 67% of airports surveyed indicated that a staff forecasting tool would be useful to have, with large hub airports expressing the most interest. The interest of medium and small hub airports was less as many felt that existing techniques were sufficient to manage demand at their CO.

[2] **PARAS 0037:** https://www.sskies.org/images/uploads/subpage/PARAS_0037.AirportConstructionSecurity_.FinalReport_.pdf

A staff forecasting tool can help in planning and budget development

Based on the interest expressed in a staff forecasting tool, one was developed as part of this research effort. The tool will allow airports to forecast for a 3- or 6-month window based on 6 months of historical data. See Appendix B to learn more about the tool.

SECTION 3: ADDITIONAL CONSIDERATIONS

Over the course of this project, the research team identified factors related to the credentialing process that play a significant role in the responsibilities and effectiveness of the CO. These factors are discussed below.

3.1 Fee Collection and Processing

Generally, airports that collect fees for the credentialing process do so to cover the cost of the CO's operations, equipment, and supplies.

Some airports do not charge employers or applicants any fees for new or renewed badges. For these airports, the cost for credentialing operations is recovered through facility rates and charges. They take this approach because setting and changing rates is difficult to get approved through their municipal process. It also reduces the associated POS processing equipment and staffing.

Other airports have a set fee for new and renewed badges, but no fees for fingerprinting, STA, or other processing. In this approach, the cost for assigned badges must also cover the cost of operations for non-approved badges, but POS and billing involvement are simplified with fewer required transactions. Some airports reported a higher rate for new applications than for renewals, while others charge a flat rate.

The majority of airports break down credentialing fees by task: Fingerprinting/CHRC, STA, Badge Printing, Parking Permit, etc. This requires more POS or billing involvement, but allows fees to be associated with specific CO services rendered, and is more cost-effective to the tenant or contractor. See Figure 3-1 below.

Figure 3-1. Credentialing Fees Sample

Charged to Employer			
Item	**Category**	**Fee**	**Refund**
STA	Background	$13.00	No
Fingerprint	Background	$32.00	No
New Badge	Badge	$35.00	No
Unaccounted Badges	Badge	$100-Single area $200-Multi area	No
Lost Parking Card	Parking	*$50*	No
Monthly Parking Access	Parking	*$35 Employee Lot* *$70 Bus Valet (Premium)*	No
Lost Parking Tag (Orange or White)	Parking	$20	No
Charged to Employee			
Item	**Category**	**Fee**	**Refund w/return of Lost badge**
Lost Badge	Badge	$135 - first badge $235 - second badge $335 - third badge	1st badge-$100 2nd badge - $200 3rd badge -$300 ***For refund, badge holder must:*** • *Be present* • *Have card used to pay* • *Have printed receipt*
Citation (Security or Safety)	Badge	*Per citation adjudication results*	No

Most airports have escalating fines for lost cards, with amounts varying greatly. The highest amount reported was $750 for the third offense. All airports revoke badge privileges after the third or fourth offense, with some revocations resulting in civil hearings and fines. The revocation period ranges from one year to permanent. Some airports restart the lost badge count after a twelve- or twenty-four-month period. Some COs may waive the lost badge fee if a police report is provided.

Around half of the surveyed airports charge a fee to cover costs to replace a badge due to damage or information change.

Fines that help deter undesired employee behavior can reduce non-credentialing activities for staff

Unreturned badges of terminated employees can be a serious security issue, and possibly result in TSA fines and/or force rebadging for the entire badged population. A wide range of fines were reported by airports to deter such instances. One airport issues a weekly fine of up to $500. Another reported the ability to fine the offending company up to $25,000 after 60 days for non-returned badges. As expected, the more severe fines result in fewer unreturned badges.

Where fees and fines are charged to the credential holder, the CO has a POS solution that is either a separate function of the office or processed at the credentialing workstation. Where the CO has independent systems for ACS, Badging, CBT, DAC, etc., there is typically a manual transition to the POS for processing. The processing agent manually enters the transaction in the POS or sends the applicant to the POS agent for fee collection. COs that use an ACS Credentialing Module or IDMS can use their system to track and process POS charges more efficiently. The POS solution is generally an independent system that is developed on the airport's financial management platform.

For operations that charge processing fees to the employer, transactions are typically billed directly through back-office accounting or with the airport's rates billing. A simple form of POS is still required for fines that are charged directly to the employee.

3.2 Technology Implementation

Multiple airports identified challenges they experienced in technology implementation projects due to ineffective planning, project management, or implementation by contractors and/or manufacturers. Multiple airports reported that challenges they experienced in a project were the direct result of poor planning. The following key factors should be considered in order to start the project on the right track, and to help ensure the least disruption during the project and the best outcome. Relevant considerations can also be found in PARAS 0030 *Guidance for Access Control System Transitions*.[3]

QUALIFIED AND EXPERIENCED PROJECT MANAGEMENT

The best results will be realized through the guidance of experienced professionals. The airport's CO or IT department may not have experience with newer technologies and solutions, or in developing a roadmap to successful implementation. Peer airports can be a great source of information, but they will not be able to provide the ongoing guidance and support needed. Integrators and manufacturers may have experience, but only with the products they represent, and only where it is beneficial for them. More than one airport indicated that they did not feel the integrator or manufacturer managed their

[3] **PARAS 0030:** https://www.sskies.org/images/uploads/subpage/PARAS_0030.ACSTransitionProcess_.FinalReport_.pdf

project effectively. Airports concerned about project management and those who lack in-house project management expertise may consider hiring a qualified consulting firm to represent the CO and ensure its needs are understood and addressed throughout the project.

RFP DEVELOPMENT

A well-developed RFP for a technology project is critical. This is specifically where the CO can benefit from experienced support to ensure that all needs, expectations, and opportunities are addressed. Airports interviewed that had completed a technology project indicated that their RFP left gaps where the contractor or manufacturer did not provide the expected outcome or did not identify a means to resolve discrepancies, and they were left to resolve the issues themselves.

The IT department can help provide effective RFP direction, as they are involved in many technology projects. It is also possible or even desirable that they may lead the procurement process.

PRODUCT & VENDOR SELECTION

If an airport or municipal procurement policy allows, develop a list of approved products that will be specified in the RFP. This will simplify RFP creation and greatly reduce the product unknowns when awarding the contract. Through the development and planning process, the desired features and capabilities will be identified to allow an informed evaluation of available solutions. Fortunately, there is a well-established product list for aviation credentialing technologies, which keeps the product evaluation manageable.

If procurement policy does not allow for the selection of approved products, then the RFP must be developed to specify the desired features and capabilities of the CO.

Pre-approved product selection can help develop a more robust RFP, streamline the award process, and improve results

Off-the-shelf solutions are typically preferred, as opposed to highly customizable offerings. Products that are customized to fit a particular client's needs typically take longer to implement, are more expensive to maintain over time, and can be more problematic for future upgrades. Products that can provide the primary functionality desired and can be configured by the end-user are preferred and generally less problematic.

Generally, the vendor is an integrator responding to the project RFP. They will sell and implement the solutions, and provide training for the CO staff. The integrator represents the product manufacturer(s), performs most of the implementation work, and also becomes the service provider to support the system(s) for the duration of the contract. The vendor may engage other integrators to carry out the work, or the vendor arrangement may require support from the manufacturer for portions of the project.

There are a few products where the manufacturer responds directly to the RFP to sell and implement their product, but that is typically only feasible when theirs is the only product involved. Where multiple systems are part of the project, it is preferred to have a single contractor (integrator) as the prime contract holder to avoid conflicts of responsibilities. In the RFP development, it is important to understand these potential vendor approaches and define expectations, roles, and responsibilities for the project within the RFP.

It is critical for the RFP to include requirements for qualifications, similar experience, and business stability for both vendor and products. Additionally, there should be verifiable, successful, existing project experience between the vendor and the products they are proposing.

STANDALONE INITIATIVE

Where possible, make CO technology upgrades their own initiative. One airport stated that their ACS and new IDMS were implemented as part of a new terminal construction project, which compounded challenges associated with the added credentialing activities, and resulted in inadequate testing and commissioning of the systems. Implementing technology as a separate project may also ensure that that the CO is sufficiently involved in system design and development.

RESOURCE AND STAKEHOLDER RELATIONS

It is important to build good relations with the airport IT department and identify early on what roles and responsibilities each party will assume throughout a project. This could prevent backtracking and lost time as the project progresses.

It is also important to identify and engage all airport stakeholders as appropriate throughout the project. Input and support from airport departments, agencies such as TSA and CBP, and key individuals from tenants that will be directly affected could be invaluable. These stakeholders do not necessarily get to make decisions, but their collaboration in the project development can provide significant benefits for all.

DEVELOPMENT & PLANNING

The first step in the procurement process should be to identify and detail the challenges that are driving the project. It is also important to review current airport policies and guidelines for the CO to ensure potential enhancements are compliant, and identify where changes may be needed. This process may include developing a roadmap to the desired outcome that covers goals, costs, timelines, resources, and dependencies, phased as needed to manage resources and dependencies.

When developing new solutions, it is important to take advantage of efficiencies offered by the new technology, and not force old policies and procedures into the new system. One airport acknowledged that they caused a lot of frustration for themselves and lost a lot of time before they realized the benefits of updating their policies and procedures in support of the new system's capabilities.

Instead of forcing old processes into the new system, identify ways to make the new system improve operations

TESTING

The technology project timeline needs to incorporate a testing period, involving the installation of sample hardware, software, and data environment, mirroring the final proposed solution as closely as possible in a small-scale deployment. The goal is a satisfactory demonstration of the system and acceptance of the test environment before starting the actual implementation. This test environment should include the process of migrating and/or inputting data from the old systems. Ideally, staff training can take place once the testing is completed.

The test environment may be rolled into the production environment, but should continue for ongoing upgrade and patch testing, as well as a possible staff training resource. This does not completely guarantee a seamless transition, but the odds are greatly increased, and the testing process will provide a greater understanding for everyone involved.

See case studies in Appendix A for BWI, ICT, MCO, and SAT related to technology development projects.

3.3 Badge Expiration Period

Badge renewals are a regular part of credentialing operations. Through this project research, various approaches to badge renewal were identified that can help improve operational efficiencies.

ANNUAL RENEWALS

The primary justification for requiring annual renewals is that it eliminates the need for annual TSA badging audits. This approach creates more processing work for the CO, but eliminates the time required for audits and the potential risk of failed audits.

DAY OF MONTH RENEWAL

Allowing badge renewals through the end of the expiration month can result in a rush of activity at the end of each month. If these periods of higher activity can be managed effectively, lighter times throughout the month can be allocated to other activities.

Some airports have updated their badging policy to require renewal by a specific day of the month based on the original date of issuance or the badge holder's birthdate. This helps to spread renewal activity throughout the month and keep a more consistent level of demand.

ESCALATING RENEWAL PERIODS

Many airports are moving to a graduated renewal period for certain company categories that typically have a high turnover rate. For example, the initial badge may have a three- or six-month expiration period, then subsequent expiration periods extending in increments up to twelve months. While this does increase the renewal activities, it greatly reduces the risk of unreturned badges.

Short-term renewals for new applications in high turnover areas can help reduce unaccounted badge risks

3.4 Adjudication Responsibilities

Once STA and CHRC reports for new applicants are received by the CO, it is the CO's responsibility to make the final decision on approving the badges. This step is very easy when the reports come back either clean or with an obvious disqualification. However, many reports identify a court decision that requires further examination.

DEDICATED POSITION

For medium and large hubs that process a high number of adjudications, it may be more efficient to dedicate a staff position to this task rather than distribute it across the CO team. Staff can be rotated into this position to promote cross-training, but they will be more efficient at the task if not disrupted by other activities.

EXTERNAL RESOURCES

The CO often needs additional information from outside sources—such as local law enforcement or CBP—to make adjudication decisions. Establishing contacts and developing communication lines and protocols with these resources will help streamline the adjudication process. One of the airports involved in this project reported that they are adding a CBP office within the CO space to support adjudication.

3.5 Access Privilege Management

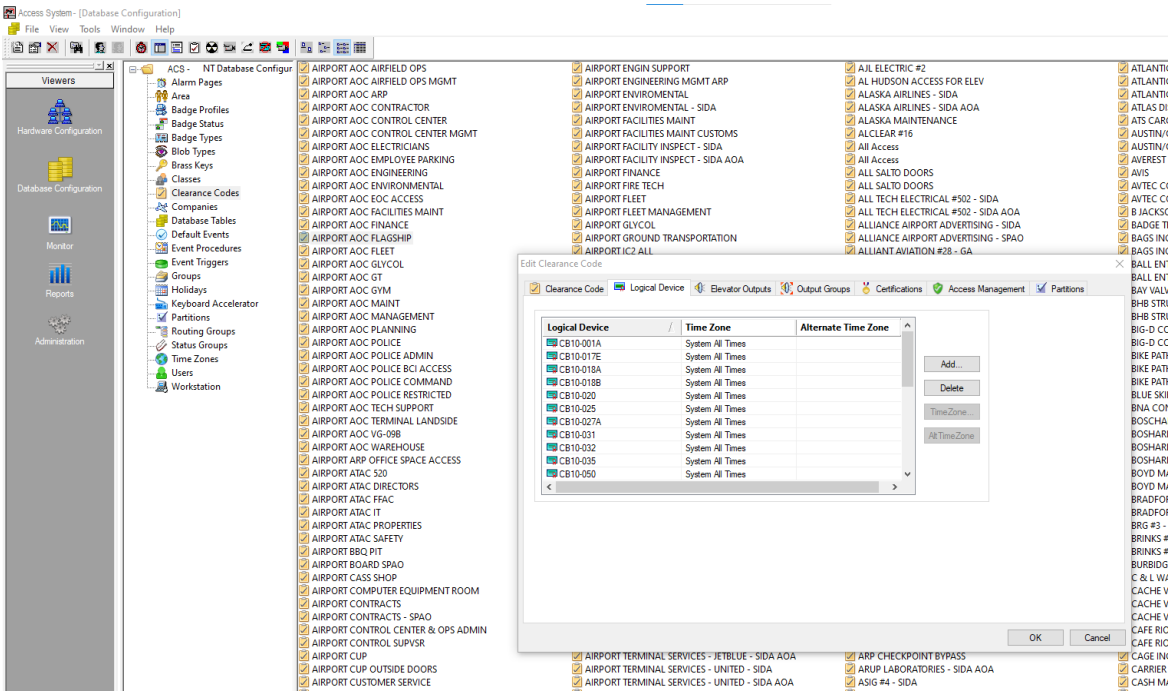
Managing door access privileges is a challenge for many COs. The actual privileges are a function of the ACS, but some systems are better than others at providing a user-friendly means of management. The task is especially challenging when employees have unique requirements that result in ad-hoc door access assignments. How the employee or Authorized Signatory requests those privileges is one aspect of the challenge; another aspect is how the CO manages and transfers those privileges to the ACS. IDMS provide solutions to manage access privileges effectively. For airports not using an IDMS, this task is a manual process.

The number of doors that must be managed typically increases with airport size. Even when all privileges are assigned to templates, identifying the proper template is a challenge (i.e., T2N Stair Doors). Because every brand of ACS configures door access privilege templates differently, the approaches above will need to be adapted accordingly, and will likely require support from the system integrator. However, by investing a little time to develop an effective management plan, the CO should be able to increase efficiencies around door access management. Additionally, developing this effectively will assist if an IDMS is implemented in the future.

Incorporate unique numeric (serialized) segments in the door group name to help with assignment and tracking

The first step in access privilege management is to minimize the number of door control groups or templates. Establish a security policy that defines controlled spaces and try to reduce the number of areas controlled. This approach means fewer access privileges are required. Create access privileges to accommodate all the possible combinations of door access groups that will be needed by airport employees and restrict use of unique privileges. There may be an airport-wide door group that will be assigned regardless of employer, along with door groups that are specific to each employer's access needs. The primary consideration is that any change to a template affects all badge holders to which it is assigned. See Figure 3-1 as an example.

Table 3-1. Typical ACS Access Privilege List



ACCESS REQUEST PROCESSING

It is not typically difficult to assign access privileges for new badge applications, as most companies will have default privileges that are associated with their employees. Where multiple privileges may be available, the Authorized Signatory indicates the appropriate privileges on the application form. Each Authorized Signatory should have a list of privilege options available to their company.

For modifying access privileges of existing employees, the Authorized Signatory must request the change from the CO, identifying the new privilege level required for that employee.

ESCORT MANAGEMENT

CO duties concerning escorting non-badged individuals include vetting and documenting the individuals, preventing use of the escort system to bypass credentialing, and enforcing policies and procedures. Only 22% of airports use a technology or system to track visitors. Approximately 46% of the airports who responded indicated they access the No-Fly List via eSecure to further strengthen vetting for visitors.

For detailed information on management of escort privileges, see PARAS 0035 *Synthesis of Escort Privileges and Escorting Practices*.[4]

CHANGE MANAGEMENT

When the ACS can accommodate a template for all door access groups needed, the process of assigning privileges is straightforward. When unique privileges are required, a separate access template must be created for that need and assigned to the employee in addition to their basic privilege. It is key to have a privilege-naming convention that ensures accurate assignment in the ACS. This may include a numeric segment in the name to help serialize the options.

[4] **PARAS 0035:** https://www.sskies.org/images/uploads/subpage/PARAS_0035.EscortPrivilegesPractices_.Final_Report_.pdf

ACS that are not able to provide a template for all door access groups generally handle unique door access assignments by creating an ad-hoc privilege for those employees. This can be easier for custom assignments, as it eliminates the step of creating another template, but makes reporting and tracking of assignments more complicated.

Regardless of how the ACS manages door access, a user-defined field should be included in the ACS database for recording changes to access privileges. Information should include the date, who requested the change, and any other relevant information to help track changes. To help manage and track available door access templates and show employer associations, an Excel spreadsheet can be generated through an ACS report.

3.6 Airport CO Website

The use of credentialing-specific websites and webpages varies greatly among the airports interviewed. If designed properly, they can be an informative resource for applicants, tenants, and airport employees, and can assist in minimizing CO staff time involved in providing in-person assistance. The following should be considered in webpage design.

EASE OF ACCESS

The CO webpage should be easily accessible from the airport's main website. Ideally, it should not require more than two clicks to get to the CO webpage. Access to the webpage must be intuitive and the page should be included in results from the website's search function.

Follow the "two-click" rule for access to the CO webpage

INFORMATION AVAILABILITY

Webpages should provide the necessary basic information for potential airport credentialing applicants. The following were the most common topics identified as useful to include:

- Badging guide that includes a description of major CO processes and procedures for applicants
- CO contact information, location, and office hours
- Acceptable forms of IDs and pictures of what they look like
- Downloadable application forms and instructions
- Online application portal (if possible)
- Authorized Signatory program details, including roles, responsibilities, application procedures, and access to application
- New company (tenant) setup procedures
- Training information
- Background check process overview
- Badging fees
- Badge renewal procedures
- Airport security policies and regulations
- SSI rules
- FAQs

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APPENDIX A: CASE STUDIES

The case studies in this appendix were developed in cooperation with the associated airports, and focus on challenge areas presented in this document. Identified improvements are summarized below and grouped by challenge area:

CREDENTIALING OFFICE LOCATION AND LAYOUT

- BWI converted to electronic forms submission to alleviate paper document storage and improve document management.
- MCO developed satellite training centers to reduce congestion at the main CO and then offered online training resources to add convenience for badge holders.
- SRQ went through a CO remodel to enhance training center accommodations and improve trusted agent workstation layout.

APPOINTMENTS AND SCHEDULING

- SRQ implemented a self-service appointment scheduling portal on the airport website and eliminated walk-in traffic to improve application processing time.
- PDX revised its scheduling process and implemented a website for applicants to check the results of their background checks.

AUTHORIZED SIGNATORY RESPONSIBILITIES

- SAT has implemented various improvements to enhance Authorized Signatory engagement and began monthly newsletters to improve credentialing process efficiencies.
- PDX utilized the functionality of their IDMS to increase the Authorized Signatory involvement in the credentialing process.

LEVERAGING AVAILABLE TECHNOLOGY

- Nearly all case studies show benefits realized through the implementation of an IDMS solution.

STRATEGIES TO ENSURE COMPLETE AND ACCURATE APPLICATION SUBMISSIONS

- SAT developed a workflow document to assist in the credentialing process to ensure all information is captured and uses their IDMS to ensure application accuracy.

EFFECTIVELY IMPLEMENTING NEW PROCESSES

- ICT developed a plan to track progress on new technology developments to ensure timely completion, and developed their own CBT.
- MCO modified their badge policy to require renewal on the day of the month the badge was created, to reduce the end-of-month activity surge.

Baltimore/Washington International Airport – BWI

Hub Size: Large
Active Badgeholders: 13,000
Challenge Area(s): Leveraging Available Technology, Forms and Instructions, CO Layout

Challenges

BWI's document storage area was large, but was no longer sufficient because all applications were hardcopy and old files were not removed and destroyed.

Task workstations were segregated and inefficient; staff commonly had to wait for available resources.

The IDMS did not provide the full functionality expected due to missteps during implementation. Applicant data had to be entered twice because the IDMS was not integrated with the DAC.

The number of CBT workstations was adequate, but they frequently caused challenges due to lack of system updates. Applicants' completed training had to be verified manually between systems.

Solutions

Working closely with TSA to ensure compliance, the CO converted to electronic forms and storage, eliminating the need for physical document storage. Document management was improved by increased adoption of available IDMS functions.

Each trusted agent workstation was equipped with all resources needed for credential processing, greatly improving efficiency and reducing processing time.

By addressing issues that occurred during its initial implementation, the IDMS functionality was improved and the system was integrated with the DAC.

Steps were taken to ensure CBT equipment is properly maintained, making the in-house training resources more reliable. Online services for renewal training were added, which reduced the burden on in-house resources. By integrating the CBT system with the IDMS, the credentialing approval process is now automatically tied to completed training.

Lessons Learned

- Ensure software versions remain up to date for system reliability
- Follow a structured selection and implementation process for new technology

Wichita Dwight D. Eisenhower National Airport – ICT

Hub Size: Small
Active Badge Holders: 1,900
Challenge Area(s): Leveraging Available Technology, Effectively Implementing New Processes

Challenges

When ICT built their new terminal in 2015, a new ACS and IDMS for the CO were included in the project. The CO was involved in planning for the implementation of new ACS and IDMS solutions. However, integration challenges led to a reduction in expected capabilities. Issues with the new systems caused more work for the CO staff than with their old paper-based processes. Once the installation was complete, they were not able to get effective support to resolve issues with the systems.

Initially, all training was performed by a CO instructor at set times, two days per week. This approach required applicants to accommodate the training schedule, as well as dedicated staff time to provide the training.

Solutions

To address the ongoing challenges of their new ACS and IDMS, the CO developed a process for documenting, prioritizing, and tracking issues to keep the vendor focused on what was most important. This system enabled consistent coordination with the vendor.

The CO has been able to digitize applications and ID documents, and their IDMS has been integrated with the DAC, which has streamlined their application process and greatly reduced errors.

To provide more scheduling flexibility and reduce staff time for training sessions, the CO worked with ICT administration and received TSA approval to develop their own badge application and active shooter training. The new training uses photos and videos from the airport, text, and narrated content. They expect to add Authorized Signatory renewal training soon, and are considering remote online training possibilities.

An online appointment scheduling system is the next solution they plan to implement to further increase credentialing efficiency.

Orlando International Airport – MCO

Hub Size: Large
Active Badge Holders: 16,450
Challenge Area(s): CO Layout, Leveraging Available Technology, Effectively Implementing New Processes

Challenges

The previous badging system was outdated, not integrated with other systems, and relied on manual processes and redundant data entry for each service. Fingerprinting, photographs, and application processing were completed at separate dedicated workstations, causing processing bottlenecks.

New application and renewal CBT resources were limited and only available in the CO. This added to processing wait times and increased congestion.

Validation of completed training had to be done manually between the training and badging systems.

Initially, the badge renewal policy had all badges expiring at the end of a month. This approach caused a surge in renewal activity in the last week of the month, or the first week of the month for late renewals. Mid-month activity was lower.

Solutions

In 2015, badging operations for MCO were assigned to new management to improve performance.

An IDMS was implemented and integrated with the ACS, CBT, DAC, and Rap Back services, allowing automation of those processes. Each badging workstation was equipped with all peripherals needed to create a badge, reducing the bottlenecks of standalone equipment.

Remote CBT rooms were created at the main terminal and the Airfield Operations Office, and online training services were added, which reduced badging office traffic, freed up space for badge processing, and increased scheduling convenience for applicants.

Badge expiration dates were changed to the day of the month the badge was originally issued. Over time, this eliminated the month-end surge of activity in the badging office.

Results

The changes implemented have improved operational efficiency, staff morale, and customer satisfaction.

Applicant wait times reduced from four hours to twenty minutes. Unprocessed application backlogs were reduced from over a month, in many cases, to one to two weeks.

The efficiencies in both space and time have allowed the CO to increase staff and equipment to further expand their processing capabilities.

Portland International Airport - PDX

General Information

Hub Size: Medium

Active Badge Holders: 10,200

Challenge Area(s): Appointments and Scheduling, Leveraging Available Technology, Effectively Implementing New Processes, Authorized Signatory Responsibilities

Challenges

Previously, new applicants had to make two separate appointments: one for fingerprinting and a second for training and badge creation. Each appointment typically had a one-week lead time.

Entering data from paper applications into the IDMS was time-consuming and prone to errors, partly due to illegible handwriting. The CO staff had primary responsibility for ensuring complete and correct forms.

Badge audits were completed on paper and conducted via email. Verifying/comparing data was a time-consuming manual process that was prone to errors.

Solutions

The redesigned process enables applicants to call the CO once to schedule an appointment for application processing, fingerprinting, and training. The CO also implemented a website for applicants to review the results of their background checks. Once approved, the applicant can go to the office to pick up their badge.

Authorized Signatories are now required to complete all new and renewal applications in an IDMS portal. This has reduced the CO staff time needed for processing and improved information accuracy.

All badge audits are now done electronically through the IDMS, and Authorized Signatories complete their portion of the audit through a portal. A training manual was developed with specific instructions on how to complete the audit, including the use of a separate email account for audit communications to reduce message traffic in their main badging email account.

Results

Through process changes and use of their IDMS, PDX has:

- Reduced average badge issuance time from 14 days to 3 days
- Reduced in-office processing from 15 minutes to 8 minutes
- Reduced the annual audit process duration from 120 hours to 40 hours

San Antonio International Airport - SAT

Hub Size: Medium

Active Badge Holders: 4,800

Challenge Area(s): Ensuring Complete and Accurate Submissions, Authorized Signatory Responsibilities, Leveraging Available Technology

Challenges

Inconsistent methods among staff contributed to incomplete applicant information. This would delay the credentialing process as DAC to TSA submissions would be rejected.

Data had to be entered into the ACS, DAC, and CBT systems independently, causing inefficiency, inconsistent data between systems, and greater opportunity for entry errors, resulting in badge processing delays.

Instructions were not consistently communicated to applicants by their Authorized Signatories, therefore applicants would come to the CO without work authorization documents or other required information.

Solutions

A documented workflow process was established to guide staff through the credentialing process, ensuring all information and documentation was provided and accurate. As the IDMS was implemented, it ensured process accuracy while improving efficiencies through automated tasks.

The IDMS was integrated with the ACS, CBT, and DAC systems, thereby reducing data entry and ensuring consistency between systems. Applicants enter their information into an IDMS portal, which is then reviewed by their Authorized Signatory. This reduced CO staff time needed to review applications each day.

Because many of the processes are now automated through the IDMS and notifications are sent to the applicant and/or Authorized Signatory for required tasks, the efficiency of the Authorized Signatory role has greatly improved. The security department also sends out monthly newsletters with common credentialing information, security policy updates, and tips.

Results

Staff daily prep time for appointments has been reduced from one hour to fifteen minutes. Data entry errors have been reduced by 80%.

Lessons Learned

It is important to understand the capabilities of the IDMS and how it can improve the overall credentialing process, rather than try to make the new system adapt to the old processes. Additionally, experienced, knowledgeable project management is critical throughout the implementation project.

Sarasota Bradenton International Airport – SRQ

Hub Size: Small

Active Badge Holders: 1,800

Challenge Area(s): Appointments and Scheduling, CO Layout, Leveraging Available Technology

Challenges

The CO allowed walk-in applicants and scheduled appointments, which led to significant swings in activity levels.

Applications were completed by hand, and staff had issues reading them and entering the data efficiently into their ACS and DAC system.

The original office space was open, with credential processing and CBT workstations in the same room. Even with headphones, people on CBT sessions had issues hearing the training.

Solutions

A cost-effective appointment scheduling system was implemented, allowing applicants to schedule their appointments through a portal on the airport website. The CO eliminated the option of walk-in traffic and now averages a manageable fourteen appointments per day.

With an update of their website, all badging information, instructions, and forms are readily available to employers and applicants. Application forms are digital and must be filled out electronically, eliminating legibility issues. A recent update to their ACS allows data to be automatically shared with the DAC, eliminating multiple points of entry.

A full office remodel created a separate, isolated training room that accommodates individual training workstations and larger group training. Trusted agent workstations were organized so that all required peripherals are easily accessible to each agent.

Lessons Learned

The primary lessons learned through these developments are to ensure the systems integrator is experienced with the systems and tasks involved, and that CO staff are engaged in remodeling developments.

APPENDIX B: STAFF FORECASTING TOOL

The research team developed a staff forecasting tool to assist the CO in forecasting future demand. This Microsoft Excel tool is intended to provide an estimate of future demand based on historical monthly badge processing rates. The following is an overview of the tool and access instructions.

TOOL OVERVIEW

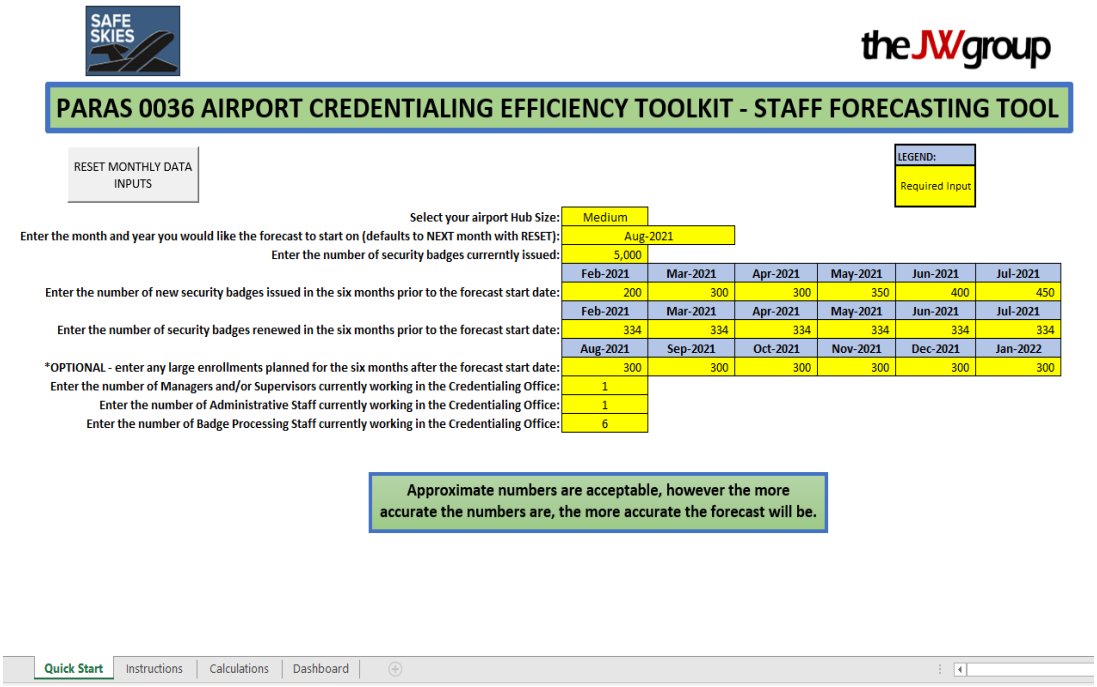
The tool utilizes an exponential smoothing forecasting algorithm to forecast future badge demand and staff forecast. The forecast is based on historical data provided in terms of current badge population, historical monthly new badge and renewal applications processed, existing number of CO staff, and average staff processing rates. Once the future monthly demand is forecasted, the processing capacity will be applied to forecast monthly staff needs for either a three- or six-month period.

The tool has four worksheet tabs: Quick Start, Instructions, Calculations, and Dashboard.

Quick Start

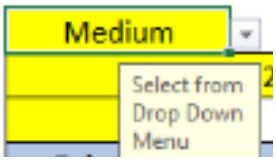
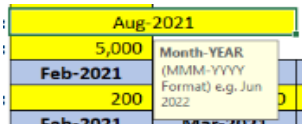
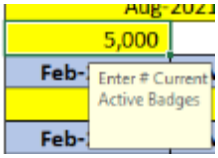
The Quick Start tab is where you can begin without reading the instructions. A screenshot of the Quick Start worksheet is shown in Figure B-1 below.

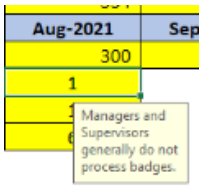
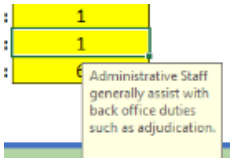
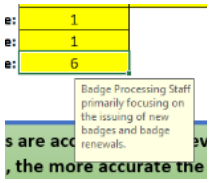
Figure B-1. Quick Start Screenshot



Cells that require data entry are highlighted in yellow. The data entry requirements are shown in Table B-1 below.

Table B-1. Quick Start Input Data Description

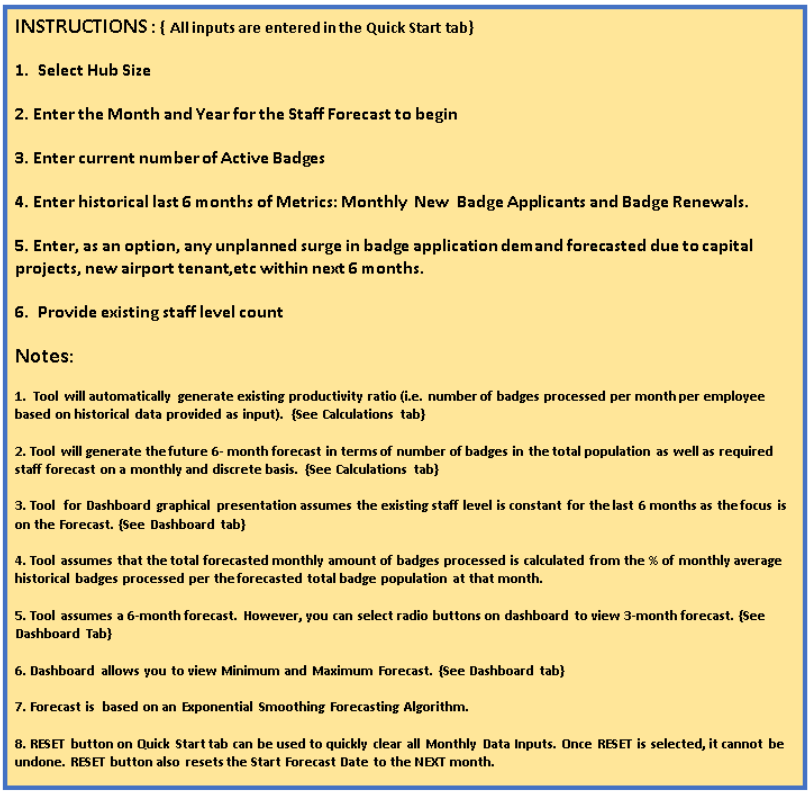
Input	Description	Screen Image
Airport Hub Size	Based on FAA guidelines, select Large, Medium, or Small from the dropdown menu). This shows the industry average Monthly Badges Processed/Per Staff ratio by size. This is for reference only and does not impact the staff forecast calculation.	
Month and year to start forecast	Allows the user to select the month and year for the forecast to begin	
Number of badges currently issued	Current total population by month and year	
Number of new badges – historical data	The number of new badges for the last six months before the forecast start date. Values must be entered for all six months.	
Number of renewed badges – historical data	The number of renewed badges for the last six months before the forecast start date. Values must be entered for all six months.	
Upcoming Surge Demand (optional)	Insert any known surge in demand in badge applicants (e.g., new capital project, new tenant, etc.) for the next six months.	

Input	Description	Screen Image
Number of Managers/Supervisors in the credentialing office	Enter the number of managers or supervisors currently overseeing the credentialing operations.	
Number of administrative staff in the credentialing office	Enter the number of administrative staff supporting the credentialing operations.	
Number of badge processing staff in the credentialing office	Enter the number of staff directly involved in the credentialing processing operations who are not managers/supervisors or administrative staff.	
Reset Monthly Data Input	The RESET button on the Quick Start worksheet allows the user to clear all monthly data input cells. RESET button also resets the Start Forecast Date to the default value to the next month of the current month.	

Instructions

The Instructions tab includes step-by-step guidance for data entry for the Quick Start worksheet, and provides additional notes for the Calculation and Dashboard worksheets. A screenshot of the Instructions worksheet is shown in Figure B-2.

Figure B-2. Instructions for Staff Forecasting Tool



INSTRUCTIONS : { All inputs are entered in the Quick Start tab}

1. Select Hub Size

2. Enter the Month and Year for the Staff Forecast to begin

3. Enter current number of Active Badges

4. Enter historical last 6 months of Metrics: Monthly New Badge Applicants and Badge Renewals.

5. Enter, as an option, any unplanned surge in badge application demand forecasted due to capital projects, new airport tenant,etc within next 6 months.

6. Provide existing staff level count

Notes:

1. Tool will automatically generate existing productivity ratio (i.e. number of badges processed per month per employee based on historical data provided as input). {See Calculations tab}

2. Tool will generate the future 6- month forecast in terms of number of badges in the total population as well as required staff forecast on a monthly and discrete basis. {See Calculations tab}

3. Tool for Dashboard graphical presentation assumes the existing staff level is constant for the last 6 months as the focus is on the Forecast. {See Dashboard tab}

4. Tool assumes that the total forecasted monthly amount of badges processed is calculated from the % of monthly average historical badges processed per the forecasted total badge population at that month.

5. Tool assumes a 6-month forecast. However, you can select radio buttons on dashboard to view 3-month forecast. {See Dashboard Tab}

6. Dashboard allows you to view Minimum and Maximum Forecast. {See Dashboard tab}

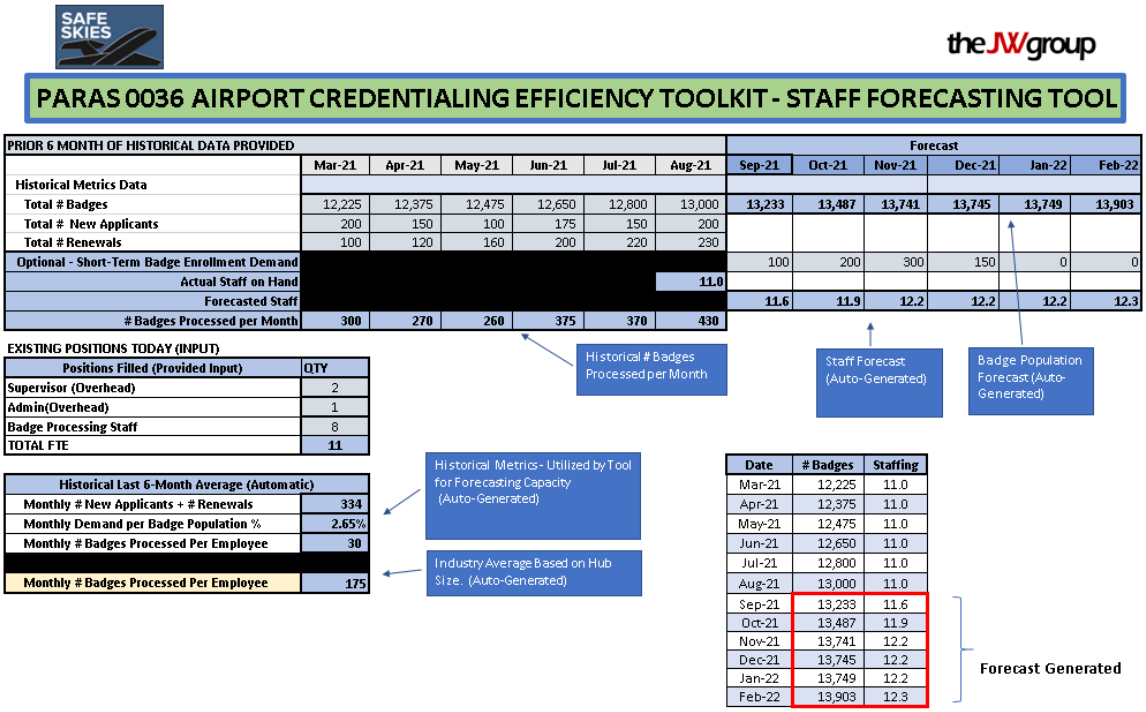
7. Forecast is based on an Exponential Smoothing Forecasting Algorithm.

8. RESET button on Quick Start tab can be used to quickly clear all Monthly Data Inputs. Once RESET is selected, it cannot be undone. RESET button also resets the Start Forecast Date to the NEXT month.

Calculations

The Calculations worksheet shows the forecasted total number of badges per month and the staff projections. The tab also shows the data entered on the Quick Start worksheet. For reference purposes, the industry average monthly badges processed per staff member is displayed for the selected hub size.

Figure B-3. Calculations Worksheet



Monthly Total # of Badges Forecasted

The monthly total number of badges forecasted is derived from an exponential smoothing forecasting algorithm based on the number of active badges reported for the previous six months. The tool first calculates the total number of badges forecasted and uses that number to generate the staff required to support the forecasted demand.

Historical Average Monthly # of Badges Processed per Employee

Once the monthly badge forecast is calculated, the tool then calculates the historical monthly average of badges processed per staff member. As staffing numbers do not change very often, the tool assumes that the most recent staffing numbers provided are the same as the last six months.

Historical Monthly Demand per Badge Population %

Based on inputs provided as to the monthly historical number of new applicants and renewals processed and the total badge population for the respective month, the tool generates an average rate for the last six months. This rate will be then used by the tool to calculate the future monthly demand as a percentage of the future monthly total badge population forecast.

Monthly Staff Forecast

The forecasted demand for badge issuance and renewal and the average historical monthly number of badges processed per employee are used to generate the monthly staff forecast.

Like any forecasting tool, the results are only as good as the historical data input. The tool provides the CO with an additional data source to use when planning for future needs.

Dashboard

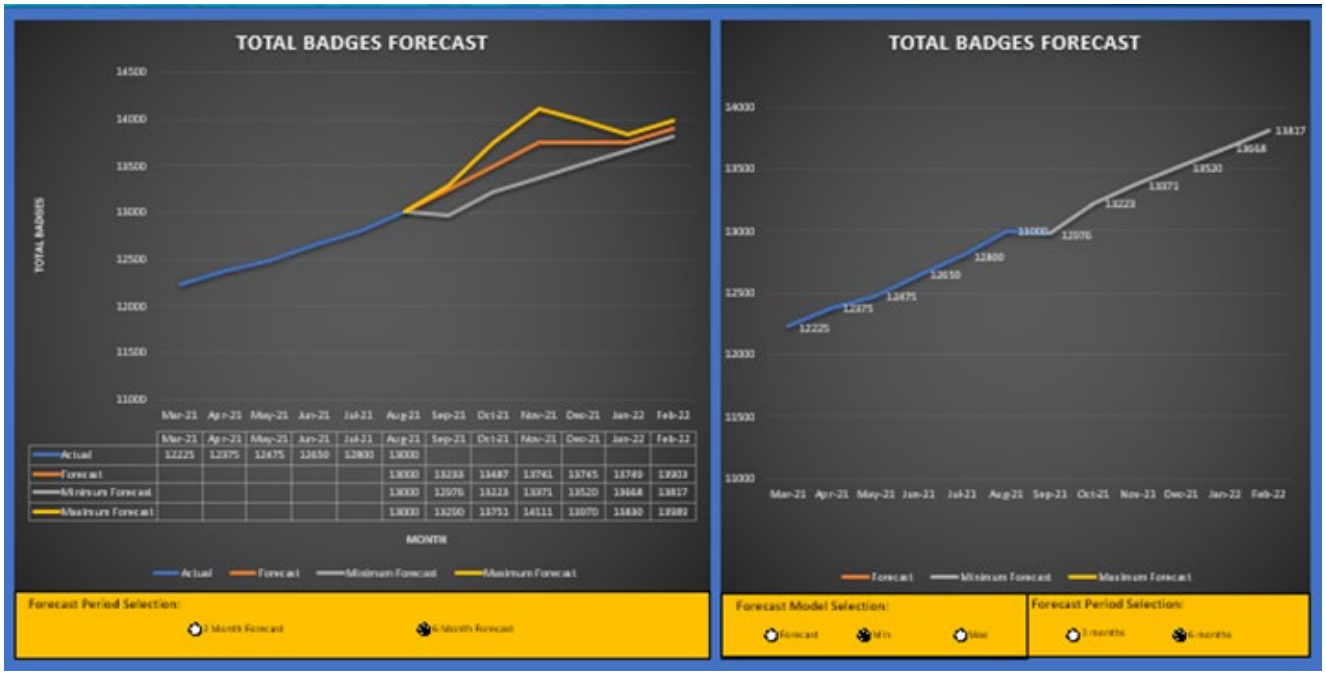
The Dashboard tab enables the user to quickly visualize the resulting calculations. This is a dynamic dashboard that updates every time new data is entered into the Quick Start worksheet. Figure B-4 shows the charts available on the dashboard.

Figure B-4. Dynamic Dashboard

The top two charts of the dashboard depict the total number of badges forecasted by month. The top left chart displays the average, minimum, and maximum forecasted values. The user can select to view either a three- or six-month forecast using the radio buttons. The values of the actuals and all three models are shown in tabular form.

The top right chart also depicts the total number of badges forecasted by month, but only shows one model at a time, which can be selected using the radio buttons. Similarly, a three- or six-month forecast period can be selected. Figure B-5 shows the top two charts enlarged.

Figure B-5. Total Badges Forecast Charts



Staff Forecast Charts

The bottom two charts on the Dashboard (Figure B-4) are enlarged in Figure B-6, below. The left chart depicts the actual and forecasted staff by month with a trend line. The right chart depicts the staff forecast per number of total badges. The user can select three- or six-month forecast windows via the radio buttons.

Figure B-6. Staff Forecast Charts

APPENDIX C: SELF-ASSESSMENT TOOL

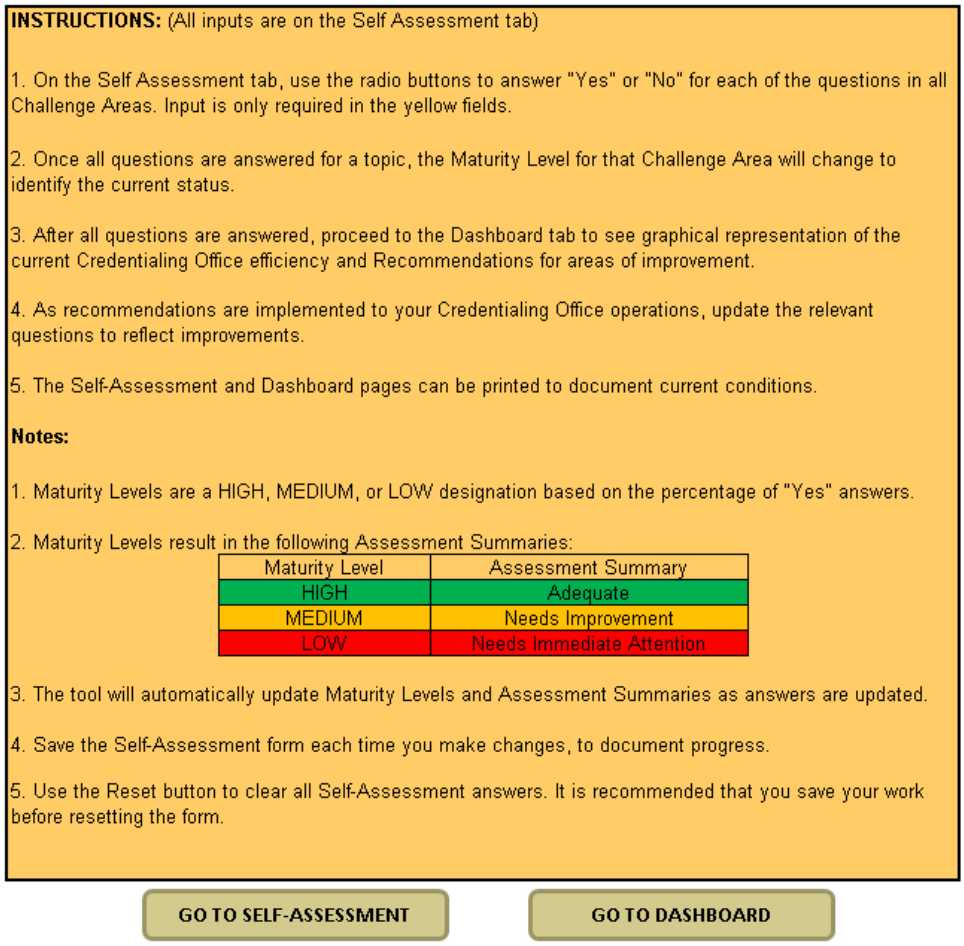
As part of this research effort, a Microsoft Excel self-assessment tool was developed to assist the CO in assessing their operational efficiencies. The tool requires Yes/No responses to questions, and uses responses to assign Maturity Levels for each of the thirteen Challenge Areas addressed in this report. Along with the Maturity Level rating, recommendations are provided for potential opportunities to increase efficiency. This tool can be used to help develop the CO's strategic roadmap.

The tool has three tabs: Introduction, Self-assessment, and Dashboard. Macros must be enabled to use the Reset Form feature.

Introduction

This tab provides an overview of the tool, along with instructions for its use. Figure C-1 shows a screenshot of the tool instructions.

Figure C-1. Self-Assessment Tool: Instructions



INSTRUCTIONS: (All inputs are on the Self Assessment tab)

1. On the Self Assessment tab, use the radio buttons to answer "Yes" or "No" for each of the questions in all Challenge Areas. Input is only required in the yellow fields.

2. Once all questions are answered for a topic, the Maturity Level for that Challenge Area will change to identify the current status.

3. After all questions are answered, proceed to the Dashboard tab to see graphical representation of the current Credentialing Office efficiency and Recommendations for areas of improvement.

4. As recommendations are implemented to your Credentialing Office operations, update the relevant questions to reflect improvements.

5. The Self-Assessment and Dashboard pages can be printed to document current conditions.

Notes:

1. Maturity Levels are a HIGH, MEDIUM, or LOW designation based on the percentage of "Yes" answers.

2. Maturity Levels result in the following Assessment Summaries:

Maturity Level	Assessment Summary
HIGH	Adequate
MEDIUM	Needs Improvement
LOW	Needs Immediate Attention

3. The tool will automatically update Maturity Levels and Assessment Summaries as answers are updated.

4. Save the Self-Assessment form each time you make changes, to document progress.

5. Use the Reset button to clear all Self-Assessment answers. It is recommended that you save your work before resetting the form.

GO TO SELF-ASSESSMENT GO TO DASHBOARD

Self-Assessment

Cells that require a user selection are highlighted in yellow. A sample of these fields is shown in Figure C-2. Once all questions are answered for an area, the Maturity Level will be displayed to the right of the answers; this result is based on the percentage of "Yes" answers.

Figure C-2. Self-Assessment Tool: Questions Section Sample

Assessment Questions	Responses	Maturity Level	Resources
Staffing Availability and Job Duty Assignments			
Are Credentialing Office staffing levels sufficient to consistently meet typical credential application activity?	○ Yes ○ No	INCOMPLETE	REPORT SECTION 2.1
Are you able to manage periodic high-volume credentialing demands for contract staff, construction projects, or tenant activity?	○ Yes ○ No	The questions in this section deal with staffing and operations of the Credentialing Office, addressing efficiencies, common processing challenges, and best-practice operations. A higher number of negative responses drives the Maturity Level down, indicating opportunities for improvement.	This section focuses on improving resource utilization in Credentialing Offices by illustrating approaches for resource management, and by highlighting areas for potential improvement with automation or process refinement.
Do Credentialing Office processes operate smoothly with minimal bottlenecks?	○ Yes ○ No		
Are processes automated, where appropriate, to eliminate time consuming manual activities?	○ Yes ○ No		
Do you have a sufficient number of supervisors and managers to support credentialing staff?	○ Yes ○ No		
Do you have sufficient number of Trusted Agents for credentialing operations?	○ Yes ○ No		
Is there documented guidance for Credentialing Office staff roles and responsibilities?	○ Yes ○ No		
Does staff have adequate training to perform their Credentialing Office duties?	○ Yes ○ No		
Do you have back-up staff resources (whose normal duties are in other operations or security functions) available to fill in during staff shortages?	○ Yes ○ No		
Do you have a plan for handling peak demand when it exceeds available resources?	○ Yes ○ No		

The Maturity Levels for each of the challenge areas are equated to an Assessment Summary. Figure C-3 shows the Maturity Level to Assessment Summary relationship. Figure C-4 shows a sample of the Assessment Summary table.

Figure C-3. Maturity Level to Assessment Summary Relationship

Maturity Level	Assessment Summary
HIGH	Adequate
MEDIUM	Needs Improvement
LOW	Needs Immediate Attention

Figure C-4. Assessment Summary Sample

Topic	Assessment Summary	Results
Staff Availability and Job Duty Assignments	Needs Improvement	The Dashboard worksheet provides graphical representation of this assessment and provides recommendations for areas of improvement.
Credentialing Office Location and Layout	Needs Improvement	
Appointments and Scheduling	Needs Immediate Attention	
Authorized Signatory Responsibilities	Adequate	
Leveraging Available Technology	Needs Improvement	GO TO DASHBOARD
Ensuring Complete and Accurate Application Submissions	Needs Immediate Attention	
Document Verification	Needs Improvement	
Applicant Assistance (language barrier, ADA, illiteracy, etc.)	Adequate	
Forms and Instructions	Needs Improvement	Keep updating your answers as you make improvements to see your progress. Save this form after each update.
Relevant Metrics and Reporting	Adequate	
Supporting Airport Peer Communications	Needs Improvement	
Effectively Implementing New Processes	Needs Improvement	RESET FORM (Save a copy first)
Forecasting and Future Planning for Demand	Adequate	

Dashboard

To allow the user to quickly visualize the Assessment Summary for each area, two dynamic charts are provided in the Dashboard. In addition to the charts, Recommendations are listed under each Assessment Summary type to show opportunities for improving operational efficiencies. The Dashboard information will update as answers are updated on the Self-Assessment page. Figures C-5 and C-6 show both the charts and the recommendations.

Figure C-5. Graphical Charts Sample

Figure C-6. Recommendations by Maturity Level Sample

RECOMMENDATIONS		
NEEDS IMMEDIATE ATTENTION	**NEEDS IMPROVEMENT**	**ADEQUATE**
Optimize scheduling process to reduce walk-ins and no-shows	Develop strong hiring & retention program	Incentivize AS positive behavior
Cap CO demand by capacity available	Develop staff self-assessment procedures	
Develop electronic forms submission	Implement forecasting tool	
Develop unified form to minimize and simplify	Develop operations improvement program	
Enhance application process to support employee language	Review space allocation needs	
	Develop remote CBT training center	
	Develop credentialling workstation resources	
	Expand on capabilities of existing systems	
	Enforce AS responsibility in forms submission	
	Develop documents guidelines and training for CO staff	
	Join regional airport community group	
	Conduct regular office meetings to identify challenges and trends	

APPENDIX D: CREDENTIALING CHECKLIST SAMPLES

The following checklists are samples from GSP and SAT, which participated in the research study. The checklists were developed by the airports to ensure all required tasks are performed by CO staff members. These are provided as references to assist airports in developing or updating their own checklists.

GSP Airport - Initial Issue – Appointment 1 Checklist

7/6/17

Application

- Section 1 - CONFIRM Signatory has completed all of the sections - **DO NOT** badge if not completed.
- Section 2 - CONFIRM Applicant has completed all of the sections , pay attention to birth place and citizenship as well as the disqaulifying crimes > if answering yes > **DO NOT** Badge.

ID's

- Accept two forms of ID (ref. I9 Form), make copy of each.
- Ensure names on the ID's match exactly, if not > **DO NOT** badge until ID's are provided.
- **DO NOT** badge if two froms of ID aren't provided.
- Give applicant a copy of the Privacy Act Notice, initial and date back of application.

Telos

- Create a registration.
- Creat a case (full package for all badges except Public > STA only).
- Enter applicant info, upload copy of ID's if the applicant is born outside the US or is not a US citizen.
- DHS employees & law enforcement agencies are exempt > **DO NOT** ENTER.

Fingerprint

- Fingerprint the applicant.
- Public badges, DHS employees, and law enforcement agencies are exempt > **DO NOT** Fingerprint.
- Fingerprint United, DALGS, SWA, and Piedmont under thier fingerprint codes/SON unless advised otherwise from the Signatory. Fingerprint all other companies under GSP.

Billing

- Add applicant to the Billing List.
- Receive/accept payment (CC, check, cash) for companies that we don't bill > mostly contractors. Confirm with OM if unsure.

Application

- Complete back of application for actions taken, initial and date as required.
- File application in the "Needs STA/CHRC" folder.

GSP Airport - Initial Issue – Appointment 2 Checklist 7/6/17

Application
- Verify the applicant has received both an STA and CHRC (STA only for public badges) - DO NOT badge if missing clearance.
- CHRC Records - Verify PD Police Cheif has initialed off (top left corner of printed CHRC).
- Verify copies of both STA and CHRC are in the application.
- Annotate clearance info on back of application.

Continuum
- Click Create Badge, input the applicants Last, First, and Middle name - click Apply and then capture the applicants photo.
- Select the GSPBadgeLayout.dgn template for the Badge Layout.

Training
- Start the applicant in the Initial SIDA Training presentation. Public badges are not required to complete the SIDA training (STA only).
- DO NOT accept SIDA certificates taken off-site, applicant must conduct training on-site.
- Print certificate and place in application when finished.

Continuum
- Assign the appropriate access template, and input all of the required fields (address, contact number(s), department, and work number - if provided)
- Enter start date (date of badge issue)
- Enter the card # from the blank access card into the Card # field
- Enter PIN (received from the applicant)
- Enter activate date (date of badge issue)
- Change expiration date, 2 years from date of issue.
- Confirm Site Code is 2332
- Enter the card # from the blank access card into the Employee # field
- Enter the access level (Secured&SIDA&Sterile - red & unrestricted (redstripe) badges // SIDA - yellow // Secured - Blue (concessionaire) // Sterile - Blue // Public - White
- Enter CHRC case number and date of approval in the Case Number field.
- Enter Badge color (see front of application)
- Enter badge status as Active
- Enter badge type - employees for everyone minus Contracotrs,Blue - secured badges and Armed officers (Police). For Contractors, select Contractor and For Blue - secure, select Concessionaire. For Police, select Armed officer.
- Enter driving rights (see front of application). R for ramp driving // A for Movement Area driving - must complete training throuhg OPS first.
- Enter FIS number (if applicable).
- Enter E for escort rights (see front of application)
- Enter parking hang tag number (if applicable)
- Enter STA DAC # and date of approval in the STA Clearance field.
- Print the badge, verify expiration date and badge number are correct.
- Save fingerprints to badge.

Parking Hang Tag
- Verify if the applicant needs an employee lot hang tag, check binder if unsure.
- If needed, pull vacant hang tag from binder, complete the form (under the applicable company), and have the applicant sign for the tag.
- Annontate tag info on the back of the application and in Continuum (# only) under ParkingSticker1.

Telos
- Update badge info to include the badge #, issue and expiration dates, submit to TSA.

Application
- Complete back of application for actions taken, initial and date as required.
- File application in applicable company file.

GSP Airport - Renewal Checklist

7/7/17

Application

- Section 1 - CONFIRM Signatory has completed all of the sections - **DO NOT** badge if not completed.
- Section 2 - CONFIRM Applicant has completed all of the sections , pay attention to the disqaulifying crimes > if answering yes > **DO NOT** Badge.

ID's

- Verify current copy of ID's are unexpired in application, if expired, obtain unexpired ID and make a copy.
- Ensure names on the ID's match exactly, if not > **DO NOT** badge until ID's are provided.
- Give applicant a copy of the privacy act notice, date back of renewal application.

Continuum

- Update applicant info (if applicable) from application.
- Change expiration date, 2 years from today/date of issue.
- Change the card and employee # to the new number off the blank access card.
- Take a new picture, save and print badge.

Training

- Start the applicant in the Recurrent SIDA training presentation.
- Print certificate and place in application when finished.

Telos/ Fingerprint

- All applicants must be re-fingerprinted every two years (DHS, law enforce., and Public badges are exempt).
- Select Update Biometric, capture fingerprints and upload, submit to TSA. If prints are already attached to the employees profile, electronically submit the prints.
- Fingerprint United, DALGS, SWA, and Piedmont under thier fingerprint codes/SON unless advised otherwise from the Signatory. Fingerprint all other companies under GSP.
- Select Update Biographic, update applicant info, update badge info (revoke old badge and add new badge).

Billing

- Add applicant to the Billing List.
- Charge $16 if not fingerprinting, charge $38 if fingerprinting.
- Receive/accept payment (CC, check, cash) for companies that we don't bill > mostly contractors. Confirm with OM if unsure.

Application

- Complete back of application for actions taken, initial and date as required
- File application in the Renewal CHRC file ONLY if re-fingerprinted/elecontrically submitted. If not fingerprinted, file in the appropriate company file.

SAT Airport - Badge & ID Checklist

Ticket No:

Company_____ **Badge Process Type:** _____

Last Name: _____ First Name: _____ Middle Name: _____

Date of Application: _____ Transaction Date: _____

Badge #: _____ Badge Exp. Date: _____ ☐ 3 Mo ☐ 6 Mo ☐ 1 Yr. ☐ 2 Yr.

SAT Badge Color: _____

DUAL BADGE: ☐ YES (2nd badge number: _____) ☐ NO

Documentation & Payment

List A document / expiration	List B document / expiration	List C document

Citizenship document uploaded in Telos? _____

Payment Type: _____ Payment No.: _____

CHRC & STA

This folder is waiting for: CHRC ONLY STA ONLY BOTH

CHRC Provider: SAT EXEMPT CHRC Case No.:_____ CHRC Print Date: _____

STA DAC Case No.: _____

CHRC VERIFIED BY: _____ STA VERIFIED BY: _____

TRAINING & ACKNOWLEDGEMENT

SIDA Acknowledgement form attached & signed: YES NO

Dual Badge Acknowledgment form attached & signed: YES NO

SIDA Training Completion Date: _____

Authorized Signatory Training Completion Date: _____

Badge Printed By: _____ Date Badge Printed: _____

Folder contents verified by: _____ Date: _____

Final Verification by: _____ Date: _____

BADGE DEACTIVATION

Deactivated By: _____ Deactivation Date: _____

Notified by: _____ Badge turned in: YES NO

Expired Not Returned Not Issued Terminated Disqualified Lost Stolen

AVI-FM-0037 REV: 01/11/18