

PANDEMIC INFLUENZA

Preparedness, Response, and Recovery

GUIDE FOR CRITICAL INFRASTRUCTURE AND KEY RESOURCES



Homeland
Security

Annex:
Aviation Sub-Sector
Pandemic Guideline



ANNEX: Aviation Sub-Sector Pandemic Influenza Planning Guidelines

Purpose: This Sector-specific guideline is an annex to the *Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources* and intends to assist the Aviation Sub-Sector of the Transportation Sector, and the public and private sector businesses within the Sector, plan for a severe influenza pandemic. Organizations that fail to prepare for such a prolonged and potentially catastrophic event may find themselves without the staff, equipment, or supplies necessary to continue providing essential transportation services for their customers and the nation. For the complete guide, see www.pandemicflu.gov/plan/pdf/cikrpandemicinfluenzaguide.pdf.

How to Use These Guidelines: These guidelines serve as a non-prescriptive reference for owner-operators and a practical tool that business planners can use to augment and tailor their existing emergency response plans given the unique challenges an influenza pandemic presents. **It is important to integrate your pandemic planning with your existing business continuity and emergency response plans and/or the CIKR Pandemic Guide's comprehensive framework for pandemic catastrophic planning.** This annex addresses the major sector-specific challenges the Aviation Sub-Sector may face and should assess fully in its pandemic influenza planning within the seven key areas of vulnerability highlighted by blue boxes in the Guideline sections. While not necessarily applicable to all type/size businesses in a sector, each relevant *Action*, *Supporting Action*, and *Question* in this Guideline can be integrated and managed as a separate checklist item during the planning process.

- **Actions:** These are primary checklist items with numerous related supporting actions and questions to consider.
- **Supporting Actions:** Expanding on the overarching action, these supporting actions offer specific suggestions for further study.
- **Questions to Consider:** These questions are Sector-specific and designed to focus on the main and supporting actions. They are neither comprehensive nor prescriptive; they are designed simply to represent a starting point to stimulate thinking about further actions and options.

Planning Assumptions: Influenza pandemics are unpredictable events; it is impossible to forecast their characteristics or severity accurately. The Centers for Disease Control and Prevention (CDC) define a severe pandemic influenza as a Category 4 or 5 with case fatality ratio of 1 percent or higher. Given today's highly mobile population, if a severe pandemic influenza emerges, outbreaks may occur nearly simultaneously across the country making reallocation of resources more difficult than in other emergencies. Therefore, each sector must rely primarily on its own internal resources and workers, for protection and response. While a pandemic flu will likely affect a given community for up to 12 weeks, nationally a wave may linger even longer. Thus, even though a community outbreak may have subsided, businesses in those communities that depend on a national supply chain may still find themselves without the necessary materials, supplies, and workforce. This guidance is based on CDC disease impact assumptions (pandemicflu.gov/plan/pandplan.html), including:

- *Susceptibility to the pandemic influenza virus will be universal.*
- *Once sustained person-to-person transmission begins, the disease will spread rapidly around the globe.*
- *The clinical disease attack rate will likely be 30 percent or higher in the overall population during the influenza pandemic.*
- *Rates of absenteeism will depend on the severity of the influenza pandemic. In a severe pandemic, absenteeism attributable to illness, the need to care for ill family members and fear of infection may reach 40 percent during the peak weeks of a community outbreak, with lower rates of absenteeism during the weeks before and after the peak.*
- *Outbreaks will last 8-12 weeks in affected communities.*
- *Multiple waves (periods where community outbreaks strike across the country) will likely occur with each lasting 2-3 months.*

For the complete set of planning assumptions and the pandemic influenza context, see Section 3 of the *CIKR Pandemic Influenza Guide* and the other Federal guidance at www.pandemicflu.gov.

Severity and Response Stages: CDC developed a Pandemic Severity Index that ranks the potential severity of a pandemic from 1 to 5 (www.pandemicflu.gov/plan/community/commitigation.html#IV). This tool assists in scenario-based contingency planning by communities. In addition to the Pandemic Severity Index, the U.S. Government has adopted a scale for Federal Government Response Stages, that ranges from 0 (new domestic animal outbreak in at-risk country) and 1 (suspected human outbreak overseas) to 5 (spread throughout the U.S.) and 6 (recovery and preparation for subsequent waves). These tools may help the Aviation Sub-sector develop scalable plans for maintaining essential services.



ESSENTIAL SERVICES AND SUPPORTING FUNCTIONS AND PROCESSES

The Aviation sub-sector is primarily a service industry that provides safe and secure domestic and international movement of goods and people by air. Aviation has two distinct roles in pandemic influenza planning. First, as a potential vector of disease, air travelers can spread infection around the globe in a matter of hours. Second, the Sub-sector supports pandemic influenza response needs while sustaining basic economic stability. U.S. commercial passenger and cargo carriers as well as private aviation have grown rapidly in the last 30 years. As these critical capacities have increased, so too has the reliance on them for business and leisure travel and delivery of “just in time” goods. A service disruption may severely challenge local, regional, and national economic and social stability. In carrying out the primary service of transporting passengers and goods while ensuring passenger, worker, and operational safety and security, Aviation entities perform specific functions and processes, including: receiving, holding, securing and managing passengers and goods; providing customer service support; managing airport operations and intermodal transfers; providing passenger and cargo security functions in collaboration with Federal officials; coordinating scheduling and dispatch; collecting revenue and paying accounts; providing HR support; sustaining business operations; meeting FAA safety standards; and maintaining critical equipment.

ACTION

Identify and assess essential services, functions, and processes.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Forecast and assess potential changes in demand for services and impacts on operations/revenue under different pandemic influenza scenarios (e.g., pandemic severity ranging from 1 to 5; pandemic stage ranging from a localized outbreak overseas through widespread pandemic in the United States and recovery).	<ul style="list-style-type: none"> • Each airline and airport may be effected and react differently during a pandemic influenza. Each entity is interdependent and its actions will have impacts on the others. For example, an airline may transfer resources between airports to support shifts in passenger or cargo demand. How would this change affect the airports in question as well as the communities they serve? • How might a pandemic affect demand for air transportation and how would these impacts affect your revenue and operations? <ul style="list-style-type: none"> ○ Might disease containment strategies (or the” hassle factor “associated with them) and public fear reduce demand for non-essential travel or constrain the numbers of passengers you can transport safely? ○ What are the impacts on passenger demand if air travel-intensive businesses restrict travel, reduce operations, or close temporarily during a pandemic influenza wave? ○ Could media attention/public perception affect demand in the first days/weeks of a suspected outbreak, even if no pandemic influenza results (e.g., the outbreak is later proven to be a false alarm, the virus mutates to become less virulent, or the outbreak is contained effectively)? ○ What are the potential challenges from multiple pandemic influenza waves lasting two to three months and recurring over a period of 12-18 months? How quickly or not will aviation demand rebound during the recovery period between each wave? ○ What are the potential impacts on major tourist and recreational destinations, such as Hawaii and Nevada? How might this impact passenger demand? ○ How might geographic and population differences affect passenger and cargo demand levels, routes, frequency, load factors, and/or aircraft size? Would rural isolated areas be more dependent on air service for essential goods and personal transportation? Would residents/businesses in urban/suburban corridors be more likely to shift to other modes?
<input type="checkbox"/>	In collaboration with government officials, consider effects on aviation demand and operations from potential national/regional mitigation measures and priorities (to be identified) for the transportation of essential goods and people under each scenario.	
<input type="checkbox"/>	Collaborate with government officials to define “essential” services (e.g., routes, frequencies, cargo lift, and service to small communities) for each pandemic influenza scenario.	
<input type="checkbox"/>	Identify, assess, and rank services and functions for each scenario according to their value to critical customers and to the community/nation.	



	<ul style="list-style-type: none"><input type="checkbox"/> Identify and prioritize those functions and processes required to sustain operations under each scenario, based on forecast demand and national/community needs.<input type="checkbox"/> Identify and rank those available services, and supporting functions and processes that can be adjusted to maintain operations based on different impact scenarios and demand.<input type="checkbox"/> Identify potential “non-essential” services, functions, and processes that you may be able to suspend or adapt to other more essential uses.<input type="checkbox"/> Communicate with critical customers, suppliers, labor unions, other stakeholders and local emergency response officials on jointly planning and preparing for an influenza pandemic.<input type="checkbox"/> Coordinate with supporting organizations (e.g., insurance carriers, lending institutions, and government officials) to plan for ways to continue essential business operations and support workers if revenue flows are substantially impacted.	<ul style="list-style-type: none"><ul style="list-style-type: none">○ How would impacts on international manufacturers and shippers affect domestic as well as international aviation?● Might there be increases in demand or need for certain services you provide, including:<ul style="list-style-type: none">○ on-demand air transportation of essential medical personnel and supplies;○ cargo operations, including the delivery on essential and non-essential retail goods resulting from an increased public use of on-line electronic ordering;○ private aircraft and/or service from small airports from passengers hoping to avoid public contact; and○ cargo aircraft to deliver goods otherwise shipped as belly cargo on passenger airlines where commercial passenger carriers have suspended or reduced operations?● How can an airline or airport adapt its services to better support the community, region, or nation?<ul style="list-style-type: none">○ Can passenger aircraft be used to haul appropriate types of essential cargo?○ Might airlines, with government public health guidance on appropriate spacing and possible economic support, reduce the number of passengers per flight to enhance social distancing and minimize person-to-person close contact?○ Can airports facilitate social distancing in terminals (e.g., blocking off or removing every other seat in waiting areas)?○ If international flights are routed to airports with CDC Quarantine Stations, can other airports shift essential equipment and personnel support to the ports of entry?○ In collaboration with government officials, can airlines, airports and freight forwarders prioritize cargo handling so the most essential goods/products (e.g., healthcare supplies and water treatment utility repair parts) are delivered first?○ How might the sector and the government together ensure that essential air transportation remains available to all regions, including rural areas?● How will pandemic influenza affect specialty aviation carriers (e.g., air ambulance, fire fighting, fixed/rotary wing safety inspectors, and offshore oilrig support)? How will priority delivery for essential items (i.e., fuel, repair parts) be maintained for these specialty carriers?
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ESSENTIAL ASSETS AND EQUIPMENT

Unlike other disasters, pandemic influenza will not directly damage physical assets and infrastructure. However, aviation planners should assess the indirect impacts absenteeism and potential supply chain disruptions could have on essential equipment operations and maintenance, and on other physical assets such as essential primary and supporting facilities. High absentee rates will not only make it difficult to operate equipment at normal levels but may also delay in-house and offsite maintenance and repair of essential assets and equipment. Essential aviation assets and equipment include: jet, propeller, and fixed and rotary wing aircraft; airport passenger and worker support vehicles; baggage and cargo transfer and intermodal material handling; fuel storage containers and pipelines; refueling and maintenance support; aircraft and airport housekeeping and food; customer ticketing and electronic computer/internet interface; TSA and other airport and aircraft security and safety equipment; wireless/wired telecommunications; radar and other electronics for FAA and airport and airline movement monitoring, management and safety.

ACTION Review equipment critical to support each essential function.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify assets, and equipment you must operate continuously and/or at key periods for each pandemic influenza scenario to sustain essential functions and processes.</p> <p>Review your primary and supporting assets and equipment to identify potential single-point failures and possible cascading consequences.</p> <p>Consider how each action relates to those developed to address other emergencies in existing Aviation business contingency plans, and in the Transportation Sector-Specific Plan to the National Infrastructure Protection Plan (NIPP). See: www.dhs.gov/xlibrary/assets/Transportation_Base_Plan_5_21_07.pdf</p>	<ul style="list-style-type: none"> • How will a change in demand levels affect your need for equipment (e.g., fewer aircraft would be needed if you consolidate routes or reduce flight frequency on certain routes; fewer airport fire and rescue vehicles would be needed if runways shut down)? • Can you modify typical processes temporarily to sustain essential assets and equipment? For example, can you operate your essential aviation equipment differently to decrease maintenance/repair requirements (e.g., consolidate routes, reduce flights on certain routes, operate in daylight hours only, rotate aircraft in and out of service)? <ul style="list-style-type: none"> ○ Can your organization close its non-essential facilities and consolidate operations and supplies? For example, can airlines consolidate and operate shared aviation maintenance sites at each airport or can major airline hub operators support all others at a large airport? ○ What recurring maintenance requirements exist for the facilities used to house passengers, cargo, workers, equipment, and maintenance operations? Do they demand a continuous level of operations, maintenance, and repair? ○ What backup options exist in cases where essential equipment such as heating, cooling and ventilation systems (HVAC) break down? ○ Have you developed standard operating and emergency procedures for your essential processes and equipment under other types of emergencies? If so, have you distributed them broadly to managers and staff? Can they be adapted to pandemic flu scenarios lasting 6 months or longer? ○ Have you considered primary/supporting asset/equipment challenges, including availability of operators, fuel/electricity, emergency part maintenance, critical radar repair parts, de-icing equipment, FAA/TSA security/safety equipment; and data management systems? ○ Have you assessed all contractor-managed primary and supporting aviation systems with your contractors and other key stakeholders to identify potential single-point failures in their support networks (e.g., contractors operating intermodal cargo transfer sites, operational support equipment, aircraft catering suppliers, aircraft and airport cleaning and flight-line refueling crews)?



ACTION

Prepare to sustain essential equipment for a wave lasting as long as three months.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify and prioritize available options to reduce demands on essential resources under each pandemic influenza scenario.</p> <p>For the severe scenario plan to rely on in-house or locally available maintenance and repair/replacement support for up to three months during a pandemic influenza wave.</p> <p>Assess and prioritize recurring and preventative maintenance requirements.</p> <p>Assess implications if essential assets fail early on during the pandemic flu outbreak.</p> <p>Consider establishing a pandemic influenza mutual aid program among businesses with similar assets or equipment needs.</p>	<ul style="list-style-type: none"> • Do you possess sufficient operational capacity in your essential equipment and assets to sustain functions and reduce demand on equipment and workers? For example, if essential equipment fails and repair parts become difficult to obtain, are there sufficient numbers of aircraft and support vehicles to rotate in service or “cannibalize”? • What is the frequency for routine maintenance on essential primary/secondary assets and equipment? How critical is it to perform on this schedule? Can you safely defer or accelerate essential equipment scheduled maintenance on short notice? • What is the frequency and intensity of typical safety inspections for key infrastructure such as aircraft, runways, control towers, radar, and electronics? In an extreme situation, with appropriate government waivers and other safety oversight, can you safely defer any of these to maximize availability of essential equipment and workers? • Do your emergency equipment operating plans adequately address pandemic influenza conditions? Can you effectively incorporate social distancing strategies for workers and enhanced workplace cleaning into protocols for operating and maintaining equipment? • With what other entities (airlines, airports, specialty aviation companies, such as air tour operators) can you share maintenance and repair facilities, equipment/supplies and/or workers?

ESSENTIAL MATERIALS AND SUPPLIES

A severe influenza pandemic may disrupt access to suppliers and manufacturers of essential materials nationwide for up to 12 weeks during a single wave with multiple waves potentially occurring over 12-18 months, much longer than with other disasters. The effects on individuals, businesses, and the nation from the virus directly, and disease mitigation strategies indirectly, may affect the production and delivery of materials and supplies. Aviation owner-operators should assess supply chain networks from in-house storage capacity through all distributor and manufacturer levels. Businesses and organizations with lean warehouse support and reliance on “just-in-time” delivery should consider stockpiling specific essential items such as fuel, lubricants, filters, electronics and avionics parts as well as worker protection and environmental cleaning materials (e.g., masks, gloves, and hand and surface disinfectants).

ACTION

Identify materials and supplies to sustain essential functions and equipment for up to 12 weeks.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/>	<p>Identify critical material and supplies (e.g., fuel, lubricants, refrigerants, filters, repair parts) necessary to maintain essential assets and equipment at the forecast level of operations for each pandemic flu scenario.</p> <p>Prioritize essential material and supplies necessary to operate equipment and sustain essential functions for each pandemic flu scenario.</p>	<ul style="list-style-type: none"> • How much of which materials/supplies (e.g., aviation fuel, support vehicle gasoline, lubricants, repair parts) are required to sustain essential operations for up to three months? <ul style="list-style-type: none"> ○ How many days supply do you stock onsite for all essential fuels and materials? If supply chain disruptions occur, how will you ensure availability of adequate types and quantities? ○ How is fuel typically delivered (e.g., truck, rail, maritime and/or pipeline)? What are the challenges for each delivery mode if you are to sustain operations during an influenza pandemic in which all sectors may be experiencing worker absenteeism?



<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify options to reduce demand for essential supplies and materials.</p> <p>Assess internal and external supply-chain support operations and contracts.</p> <p>Address potential risk through 1st/2nd/3rd-order vulnerabilities or unintended effects to supply chain for each pandemic influenza scenario. For example, be sure to determine who supplies your suppliers.</p>	<ul style="list-style-type: none"> ○ Are there options to obtain essential materials/supplies elsewhere during an influenza pandemic? For example, are similar types of supplies available in Federal/State/local government stockpiles, from mutual assistance business stockpiles, or as excess capacity in “non-essential” businesses (i.e., #2 diesel from “non-essential” motor carrier bus fleets)? ○ What available supplies (e.g., other appropriate types of fuels and lubricants) might you substitute temporarily for preferred essential ones (e.g., other dyed diesel)? ● Are there operations/maintenance processes you could modify to help reduce demands to stock supplies? For example, could you extend the period between lubricant and filter replacements for aircraft, vehicles and equipment? ● Are there additional procedures and supplies necessary to protect workers and disinfect passenger and work areas between trips, shifts and cargo changes? For example, do you have sufficient supplies of appropriate cleaning solutions and trained cleaning crews to disinfect aircraft interiors and waiting areas in accordance with federal guidance? (e.g., OSHA www.osha.gov/Publications/influenza_pandemic.html, NIOSH www.cdc.gov/niosh/, FDA www.fda.gov/oc/op/pandemic/default.htm, EPA www.epa.gov/pesticides/factsheets/avian.htm, and CDC wwwn.cdc.gov/travel/contentAvianFluAirlinesCleaning.aspx).
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ACTION	Determine the most effective ways to ensure an adequate supply of essential materials.
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✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Identify options and assess costs to procure, stock, and/or ensure delivery of essential materials in places where demand may spike and/or supply may diminish.</p> <p>Identify physical/safety limitations in stocking sufficient essential supplies/materials locally.</p> <p>Explore ways to reduce the need to stockpile additional expensive supplies or hazardous materials on-site.</p> <p>Coordinate additional security needs for expanded and newly created high-value or at-risk material stockpiles.</p> <p>Identify a formal chain of command to ensure someone is available to authorize major emergency procurements.</p>	<ul style="list-style-type: none"> ● Is there adequate space on-site (i.e., fuel dumps, maintenance, and airport support areas) to expand storage of fuels and supplies temporarily and safely? <ul style="list-style-type: none"> ○ Are warehouses and storage containers available locally on short notice to serve as additional temporary storage sites? ○ Can essential materials and supplies be stored safely and legally at local/regional distribution centers? ○ How might airlines and airports collaborate to reduce the risk of pilfering and ensure access to stockpiled essential supplies and materials? ● What essential materials/supplies can you afford to stockpile? What costs must you incur to ensure supply or delivery of essential materials? How do you fund these additional costs (e.g., retained earnings, special disaster fund, and other government support)? ● Are sufficient appropriate workers authorized to expedite critical purchases of supplies via credit card or purchase order when the supervisors may not be available? ● Are there potential vulnerabilities in the planned support to primary suppliers and supply sites? For example, how resilient are those businesses upon which you rely; and those businesses, which support and supply your essential first and second tier suppliers? <ul style="list-style-type: none"> ○ Can you establish sufficient backup contracts with multiple vendors for essential supplies?



<input type="checkbox"/>	<p>Coordinate with all supply-chain vendors and normal external support sites.</p>	<ul style="list-style-type: none"> ○ What happens if the organization's supply chain cannot provide critical materials or supplies? How quickly would that affect your ability to provide essential services? ○ How, and how quickly, will the organization notify customers, vendors, and government emergency response officials of potential impacts from supply chain and other disruptions? ○ How can you provide incentives for your essential suppliers and support contractors to better prepare themselves? For example, can you collaborate with contractors on pandemic influenza planning, integrate preparedness training and exercises, provide mutual aid on key shared equipment and supplies, and/or stipulate pandemic influenza preparedness certification in contracts? ● Have you integrated your planning with local/regional suppliers and other airlines and airports to promote priority support for essential requirements? For example, can you obtain priority for fuel distribution by leveraging others' repair sites and fueling stations)?
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ESSENTIAL WORKER GROUPS

A severe pandemic influenza scenario may result in absentee rates as high as 40 percent among all worker groups. Air travelers, including passengers and flight crews, airport personnel, vendors, and others may be exposed to the virus and in turn could spread it to their families, co-workers, and the public. Essential aviation workers may be particularly vulnerable if their jobs require them to come into contact with the public. Implementing workplace personal hygiene and appropriate social distancing strategies based upon actual conditions may reduce rates of illness, but some workers may still stay away from the workplace to care for ill family members or to take care of children if schools are closed. Exposure and transmission risks within the workplace and at home should be addressed with a comprehensive worker and worker family protection program. Businesses may decide to provide medical countermeasures, such as antiviral medications, (www.pandemicflu.gov/vaccine/medantivirals.html) and non-medical countermeasures, such as surface disinfectants, gloves, and masks or respirators. Essential aviation workers may include: pilots, copilots and flight engineers; flight attendants; flight-line service personnel; FAA and TSA employees; baggage, fuel and material handlers; mechanics and service technicians; airport maintenance and repair workers; other airport and airline safety, security and emergency response personnel; cargo and freight agents; airport and airline public health and healthcare personnel; passenger reservation and transportation ticket agents; aircraft and airport cleaning crews; HR and business support; executive management and operational supervisors.

ACTION Identify the types and numbers of workers critical to sustain essential functions.		
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	<p>Identify essential position/skills based on the tasks necessary to sustain essential functions and equipment for each scenario.</p>	<ul style="list-style-type: none"> ● Have you identified the worker categories and specific skills/certifications necessary to operate and maintain essential functions and equipment? If so, have you communicated these to the workforce, labor unions, and other appropriate organizations? ● What different challenges does the organization face with full-time, part-time, contract or seasonal employees, and how will you address these in your planning and preparedness efforts? ● Can you identify, with appropriate protection of privacy and other individual rights, demographic characteristics of essential worker groups that might affect absentee rates? For example, a mostly young workforce may have more school-age children and childcare needs and may be affected more profoundly by school closures and family self-
<input type="checkbox"/>	<p>Define, coordinate, and communicate roles and responsibilities of employees, unions, staff, supervisors, managers, and staff medical personnel during an influenza pandemic.</p> <p>Assess impacts from short-term and</p>	



<input type="checkbox"/> extended absences by essential workers. <input type="checkbox"/> Assess requirements and options given differences in operational demands for essential workers (e.g., aircraft crew vs. office-based dispatchers). <input type="checkbox"/> Assess options to obtain specific contractor backup support on essential operations and determine how feasibly and quickly that could be implemented in an influenza pandemic. <input type="checkbox"/> Although covered in federal department pandemic influenza plans, essential FAA and TSA worker sustainment issues should be assessed for interface with airport and airline plans.	<p>quarantine, and thus may need to be specifically addressed for enhanced worker and family support actions.</p> <ul style="list-style-type: none"> • What are the additional or different considerations for airlines and airports for functions and services provided by contractors/vendors? <ul style="list-style-type: none"> ○ Should contractors be considered part of the primary essential workforce? For example, aircraft and workplace cleaning, equipment repair, deicing, tool calibration, fueling, computer support, and catering services? ○ What are the different workforce challenges potentially resulting from on-site vs. off-site and full-time vs. part-time contractors and vendors performing critical functions for airports and airlines? ○ What temporary workers might the organization need to implement special measures during an influenza pandemic (e.g., passenger waiting and terminal area public health and safety, expanded aviation supply stockpile security, aircraft disinfection)?
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ACTION	Identify policies and procedures to ensure a safe workplace and minimize transmission of disease among workers and the traveling public.
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✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> Emphasize basic worker personal hygiene and workplace infection control/health protection, see: www.pandemicflu.gov/plan/workplaceplanning/index.html . <input type="checkbox"/> Following a detailed hazard assessment, determine the types of Personal Protective Equipment (PPE) that may be appropriate for your various worker types and worksites, and assess availability. For information on suggested PPE use, see: www.osha.gov/Publications/influenza_pandemic.html ; http://www.cdc.gov/travel/content/AvianFluInformation.aspx#airlines . <input type="checkbox"/> Identify appropriate cleaning/disinfection standards for specific worksites and public areas.	<ul style="list-style-type: none"> • What measures can/should you take or facilitate to protect passengers and other members of the public interacting with airport and airline personnel to reduce disease transmission and to protect airport and airline workers from potentially ill passengers and others? Following an appropriate risk assessment, non-medical countermeasure and strategies that should be developed with public health guidance, and which may be employed to help reduce disease transmission and protect workers and the public include: <ul style="list-style-type: none"> ○ Social distancing strategies (e.g., limiting passenger congregation in ticketing areas, physically separating passengers and crew during boarding and deplaning, and maintaining an adequate quantity of unoccupied seats to isolate sick passengers or crew). ○ Equipment cleaning and sanitizing (e.g., enhanced cleaning of aircraft, periodic wipe-down of kiosks and ticket counters) ○ Personal protection strategies (e.g., use of gloves, masks, or other PPE, more frequent hand-washing). ○ Screening/reporting suspected illness in workers and/or the travelling public. ○ Isolation of ill persons and quarantine of exposed persons. ○ Contact tracing (i.e., following up with individuals who have been exposed). • Other strategies to consider in managing passengers, the public, and aviation workers in aircraft and airports, and which may need additional government/private research and coordination: 	



<ul style="list-style-type: none"><input type="checkbox"/> Identify who is responsible for determining when a potentially unclean site is safe for use by workers and the public.<input type="checkbox"/> Identify and review policies and procedures for protecting workers from exposure to air travelers and others in domestic and international airports and aircraft. For federal guidance specifically on managing exposure to avian influenza, see wwwn.cdc.gov/travel/contentAvianFluInformation.aspx#airlines<input type="checkbox"/> Ensure that policies and procedures are sufficiently flexible to respond to the evolving nature of the pandemic influenza and its specific impacts by location.<input type="checkbox"/> Develop/enhance employee and public risk communications and incident communication protocols for the airport, airline, government, local communities and the public.<input type="checkbox"/> Review and update procedures for reporting ill passengers and crew members aboard aircraft, as required by CDC regulations at 42 CFR Parts 70 & 71.	<ul style="list-style-type: none"><ul style="list-style-type: none">○ What are the differences in the health risks for aviation workers who encounter passengers and the public in aircraft versus airports?○ How are potentially ill passengers and the public managed in all airports and aircraft?○ Who has the authority to detain potentially ill passengers in an airport or domestic flight?• Are there any impacts that these measures might have on worker safety/productivity, operational efficiency and/or passenger experience?<ul style="list-style-type: none">○ For example, what would be the impact of social distancing measures on security and customs lines?○ How might enhanced aircraft cleaning measures affect turnaround times?○ If determined necessary to reduce exposures to specific hazards, can workers safely use N-95 respiratory masks for extended periods while performing tasks such as those requiring heavy physical labor or in a pressurized aircraft cabin?○ How would passengers react to health screening, temporary quarantine, or requirements for additional contact information?• How are potentially ill passengers and public managed? Who has the authority to detain potentially ill passengers and the public in airports and aircraft?• Have you identified and established contact with the CDC Quarantine Station and local public health unit that covers your airport or the airports you serve?• What level of training do various employee groups receive on medical/health issues? Can you provide generic or disease-specific information (e.g., symptoms to watch for, infection control strategies) as part of this training?• Should the organization augment its airport worksite and aircraft/vehicle (air traffic controller, flight crew, ground staff, and passenger and freight areas) environmental cleaning procedures? (wwwn.cdc.gov/travel/contentAvianFluInformation.aspx#airlines and www.osha.gov/Publications/influenza_pandemic.html)• Have you considered closing or restricting use of non-critical common areas, such as break and lunchrooms? How could you ensure that workers do not commingle during shift changes?• Have you reviewed and incorporated worker preparedness tasks for personal safety and protection requirements (i.e., mask and respirator training and fit testing) in your plans based on guidance such as that provided by the manufacturer and OSHA (www.osha.gov/Publications/influenza_pandemic.html)?• What are your responsibilities and liabilities to the public? Does your status as a public or private entity affect your ability or obligations to implement public health measures?• Do you have procedures in place to undertake appropriate cleaning and/or disinfection of an aircraft or area of an airport that has been occupied by an ill person(s)? Do you have procedures to consult with the appropriate government agency and obtain clearance to put the area back into public or employee use following an incident of this sort?
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		<ul style="list-style-type: none"> • How will you fund, procure and stockpile personal protection items for workers and others such as masks, gloves and hand cleaning materials, and possibly, with appropriate medical oversight and support, antiviral medications and/or vaccines? • Do you have effective and efficient communications protocols and systems (e.g., Internet, intranet, telecommunications, news media, Alpha, DEN, other government and private sector alert networks) to rapidly reach all workers and stakeholders while reducing confusion and increasing awareness and responsiveness?
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ACTION	Identify policies and procedures to protect and sustain all workers during an influenza pandemic.	
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✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Assess standard business HR policies and procedures.	<ul style="list-style-type: none"> • What health risks do aviation workers in contact with the public face? Have you considered any differences in exposure risks for workers who deal with the public on aircraft versus airports (e.g., more limited opportunity for social distancing on board aircraft, inability to trace contacts in airport exposure)? Can protocols developed for aircraft crew in contact with potentially ill passengers in-flight be adapted for ground-based airline or airport workers? • Can you utilize off-site work options for part of your staff (e.g., payroll, bookkeeping)? • How will you ensure IT systems can support any increases in employees working offsite using electronic systems and internet connections? • Should the organization consider potentially reducing disease transmission at the workplace by temporarily sending those workers home with pay to perform their normal duties or other tasks (such as training), or sending home with pay or furloughing those that cannot be reasonably employed at home or another safe site? • What sick leave, health insurance coverage and other benefits will be available to workers if they are furloughed or laid off? • Have you developed in coordination with all stakeholders a process to actively monitor and support potentially and confirmed ill workers and their families on and away from the worksite in such a way that protects their privacy? • Have you established specific policies and provided appropriate equipment and training on identifying and safely managing potentially ill individuals for workers who will likely come in contact with passengers and the public? • To reduce transmission and improve worker and workplace safety should non-medical countermeasures (e.g., masks, respirators, gloves, hand disinfectant) be stockpiled and administered for passengers and the public in airports and airlines? • What are the environmental risks that exist for workers, passengers and the public in airports, aircraft and other venues that transport and house workers (e.g., ground support/access vehicles and crew hotels)? Can these risks be mitigated (e.g., through continued government and private sector research on aircraft cabin air quality, increased ventilation effectiveness in aircraft and airports, improved efficacy of aircraft and airport
<input type="checkbox"/>	Conduct cost-benefit analysis on options to actively protect healthy workers (e.g., procure medical and non-medical countermeasures) and retain and recover ill workers (e.g., liberal sick leave).	
<input type="checkbox"/>	Develop additional HR policies specific to pandemic influenza response.	
<input type="checkbox"/>	Identify legal considerations that may arise from these new HR actions.	
<input type="checkbox"/>	Develop plans and procedures that provide support and assistance to employees' families.	
<input type="checkbox"/>	Provide regular communication and training to all workers and stakeholders on the latest HR pandemic influenza recommendations to better prepare them and to reduce uncertainty.	
<input type="checkbox"/>	Consider increasing the number of employees who work from a safer off-site location (i.e., home or designated locations) where feasible and appropriate.	
<input type="checkbox"/>	Assess differences in risks for workers posed by contact with passengers and the public in	



aircraft and in airports under each pandemic influenza scenario.

- Develop protocols for employees (e.g., seek medical attention, stay away from work, notify supervisor) if they contract the virus, show symptoms, or have ill family members and review sick leave/family leave policies to assess coverage.
- Develop focused protection protocols for workers who, due to the nature of their jobs, cannot maintain adequate social distancing from other workers, passengers, visitors and others in airports and aircraft.
- Consider implementing processes to actively screen workers upon arrival at workplace facilities.
- Review health insurance and related policies to identify coverage for countermeasures (e.g., immunization and anti-viral medications) and coordinate with government officials who may be in charge of distribution.

surface cleaning measures, and collaboration with off-site support facilities and transporters on cleaning)?

- Can an airline minimize contact between passengers and employees during ticketing and check-in by relying more on Internet and other electronic means? If your plan calls for this strategy, what will you do if IT and telecommunications capabilities degrade/fail during an influenza pandemic?
- In reviewing/revising sick leave policies, have you considered the value of workers who have developed immunity through illness and recovery, and how to retain them (e.g., incentives with liberal sick and family support leave)?
- Have you adapted existing and/or developed new sick leave policies to support ill workers and ill worker family that may be on self-isolation or family quarantine (www.pandemicflu.gov/plan/community/commitigation.html)?
- Have you collaborated with all worker unions and other worker labor groups about developing and implementing temporary policies?
- Can and should the organization add pandemic influenza related provisions to its union/labor contracts to support temporary suspension of certain collective bargaining agreement provisions?
- Has the organization communicated its chosen HR response methods (i.e., crisis hotline, telephone tree, and internet/intranet postings) with workers and their families?
- Have you identified actions and responses to reduce potential abuse of leave policies?
- Has the organization identified legal, contractual and business effects from employing emergency HR policies (e.g., additional costs, insurance carrier restrictions)?
- Has the organization assessed and integrated appropriate portions of relevant Federal/State/local HR-type laws and regulations (e.g., Family and Medical Leave Act, www.dol.gov/esa/whd/fmla) governing extended emergency medical leave?

ACTION Identify policies and actions to protect and sustain essential workers.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Reduce demands on essential workers by eliminating non-essential tasks or shifting them to other workers.	<ul style="list-style-type: none"> • Are there practical, temporary options (e.g., extending shift hours, adding focused overtime, reducing airport operations to daylight hours only, and using other non-essential workers both as essential replacements and to augment essential workers by performing their non-essential tasks) your organization can exploit to increase worker availability? <ul style="list-style-type: none"> ○ Has the organization trained appropriate non-essential workers (e.g., administrative personnel) to perform essential jobs (e.g., ticketing and dispatch) during an emergency? ○ Can you cross-train/cross-utilize workers on other key technical functions within or beyond their existing qualifications/certification? ○ Have you considered re-certifying and employing skilled supervisors to operate essential airport equipment, or other options to augment essential workers such as re-employing retired workers or sharing essential workers from other airports/airlines?
<input type="checkbox"/>	Identify additional non-medical and medical countermeasures that may be available to essential workers.	
<input type="checkbox"/>	Consider additional support measures that could be provided to essential workers to allow them to continue on the job (e.g., in-	



home child care, family medical care, on-site meals and housing).

- After exploring all other options, can you employ skilled but non-certified workers for specific certified tasks temporarily?
- Have you identified and collaborated with appropriate officials on the labor contract and certification/licensure implications of these strategies?
- Have you considered the possibility of employing more extreme measures, such as sequestering certain groups of essential workers (e.g., emergency operations, security force) onsite for a period of time with appropriate social distancing and other safeguards in place?
- Have you prioritized workers to receive antiviral drugs, vaccine, or other medical and non-medical pandemic influenza-related countermeasures as they become available?

ESSENTIAL INTERDEPENDENCIES

When an influenza pandemic strikes, it will affect all sectors of society. Preparedness requires a coordinated nation-wide response, including Federal, State, and local governments and the private sector. While perhaps most directly affecting airport operations, to facilitate a swift pandemic influenza response and recovery all the individual owners and operators within the Aviation Sub-Sector should identify and sustain those essential dependencies and interdependencies within and across critical sectors and others. Interdependencies requiring advanced coordination include support from municipal utilities, businesses, government health, safety, security and emergency response agencies, as well as essential dependent goods and services from others such as fuel, electricity, healthcare, telecommunications, and first responders.

ACTION Identify the interdependent relationships and take actions to sustain this essential support.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Assess the sector and external cross-sector essential service support requirements.	<ul style="list-style-type: none"> ● What Transportation sub-sectors (e.g., pipeline, short and long-haul trucking, mass transit and maritime) does your organization rely on most for support and vice versa? How can your organization assist to enhance resilience within those other essential sub-sectors?
<input type="checkbox"/>	Assess the capability of the Sub-Sector's associations and government alert networks, as well as other informal mutual aid and assistance networks to reduce vulnerabilities.	<ul style="list-style-type: none"> ● What sectors other than transportation (e.g., Communications, Water, Food and Commercial Facilities) does your organization depend on most to sustain its essential operations? What can you do to enhance resilience within those Sectors and at the interface points with Aviation?
<input type="checkbox"/>	Work with government and community partners (e.g., public health officials, first responders), who support and rely on your services.	<ul style="list-style-type: none"> ● Have you coordinated your essential support priorities with businesses inside and outside of the Sector (e.g., producers and suppliers to ensure priority for aviation fuel, electrical supply, and contractor off-site services support) and government and community agencies (water, physical security, and public health)?
<input type="checkbox"/>	Consider developing joint pandemic influenza-specific operational plans with service providers, suppliers, customers and other stakeholders.	<ul style="list-style-type: none"> ● What critical customers (e.g., US Postal Service, critical infrastructure just-in-time essential supply deliveries, air ambulance operations) depend most on aviation operations? What should the airport and airline do to prioritize support for them? What is the government's role in setting priorities? ● Can you reduce the organization's reliance on municipal and cross-sector emergency response? For example, can you reduce your vulnerability in these areas by working with local similar cross-sector organizations to share compatible backup power generation equipment, comparable critical equipment maintenance supplies, and infrastructure



		<p>maintenance and repair workers (e.g., plumbers, electricians, backhoe operators)?</p> <ul style="list-style-type: none"> • Have you integrated your organization’s pandemic influenza plans, actions and trigger points with relevant State, tribal and community pandemic plans? • Has your organization integrated its pandemic influenza plans with its interdependent sector and cross-sector business’/organization’s plans? • How is coordination between the various Emergency Operations Centers at airports, within airlines, and with federal, state and local governments being accomplished to ensure appropriate collaboration on processes and actions and shared needs identification? • Does the organization participate in public and private sector business pandemic influenza planning and response training and exercises?
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REGULATORY AND GOVERNMENT POLICY ISSUES

In response to an influenza pandemic, the government may provide direct support in the form of vaccines, antiviral medications, and personal protection supplies for essential workers; priority and clearances for a business’ supply deliveries; on-site public safety and physical security augmentation; and possibly financial support. Indirect support may come from governmental relief and waivers from sector-specific regulatory requirements. It is important that public and private sector businesses not rely on specific regulatory relief and/or waivers in their pandemic influenza planning. Many of the government policy issues specific to pandemic influenza have not yet been finalized, however early discussions with regulatory and policy officials can identify issues that may be appropriate to address before and during an influenza pandemic.

ACTION Identify Federal, State, and local regulatory requirements that may affect business operations.

✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/> 	<p>Collaborate with government officials to determine potential priorities for defining essential goods and passengers and service areas (e.g., routes, frequencies) for each pandemic influenza scenario.</p> <p>Identify regulations that, if temporarily modified or waived, would reduce impacts on critical functions, resources, and workers.</p> <p>Identify government direct and indirect support options that may be necessary to ensure sustaining the business and/or essential services provided by the sector.</p> <p>Explore possible direct and indirect support and specific regulatory constraints and relief options in advance with appropriate</p>	<ul style="list-style-type: none"> • What statutory and regulatory issues exist regarding management of ill employees travelers, such as privacy and nondiscrimination (e.g., HIPAA, 14 CFR Part 382: nondiscrimination on the basis of disability in air travel)? How might compliance with these laws be balanced with public health concerns during an influenza pandemic? • Familiarize yourself with the existing statutory and regulatory authority of Federal, State, Tribal and Local agencies for detaining and managing potentially ill passengers in airports and on domestic and international flights. How, when and by whom might these be invoked during an influenza pandemic? • Consult with officials on how government actions and regulatory enforcement may change as an influenza pandemic evolves and moves through a community or region (e.g., would passenger screening and travel restrictions be more vigorously applied at the start of an influenza pandemic?) • Are there temporary regulatory waivers (with ensuing consequences) to consider in addressing challenges and sustaining essential operations (e.g., exceed regular duty or flight time limitations with right of refusal; inspection standards for aircraft and “deviations for the preservation of life”; certification for aircraft mechanics and repair personnel; airfield safety inspections; pre-employment drug testing; utilizing passenger facility charges and airport improvement funds for temporary emergency requirements)? • What issues may arise from temporarily modifying safety/licensing procedures that airlines



<input type="checkbox"/>	<p>Federal/State/local government officials.</p> <p>Identify impacts that may result from changes in government actions as the pandemic influenza's affects on specific communities evolves.</p> <p>Communicate potential relief actions to all stakeholders, such as workers, unions, supporting businesses, insurance carriers and customers, and clarify "who is in charge" for each action in advance.</p>	<p>and airports should plan to offset (e.g., potential insurance carrier restrictions, incentives for workers, and greater safety monitoring by business and regulators of workers who may be allowed to exceed regular duty or flight time limitations)?</p> <ul style="list-style-type: none"> Given that airlines may face anti-trust challenges if they attempt to coordinate priorities for routes, schedules and cargo shipments among themselves, which organization(s) should determine how Federal/State/regional/local priorities for essential passenger service and goods transported by air are met? How will this be coordinated with the aviation sector in a timely manner? Will the Essential Air Services Program enforce maintaining services during an influenza pandemic to rural areas it currently covers, and how will other critical rural areas not now covered be supported (http://ostpxweb.dot.gov/aviation/X-50%20Role_files/essentialairservice.htm)?
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IMPACTS FROM COMMUNITY MITIGATION STRATEGIES

To protect the public's health in an influenza pandemic, Federal, State, local, and tribal government authorities, as well as private entities, may implement pandemic influenza community mitigation strategies, including: voluntary isolation, voluntary home quarantine, school and daycare closures, and social distancing of adults in the community and workplace. These strategies are intended to aid in containing the disease and/or slowing its spread and thereby reducing the risk of infection and death, but they may also cause major operational impacts and business consequences for the Aviation Sub-Sector. For more information on possible community mitigation strategies, please see www.pandemicflu.gov/plan/community/commitigation.html, particularly Appendix 4, and Section 3 of the CIKR Pandemic Influenza Guide.

ACTION Identify effects from mitigation strategies; take actions to reduce negative impacts.		
✓	SUPPORTING ACTIONS	QUESTIONS TO CONSIDER
<input type="checkbox"/>	Coordinate with States/communities in regions where you have concentrations of workers and/or customers and determine the mitigation strategies that they may employ.	<ul style="list-style-type: none"> What impacts will mitigation strategies have on worker absenteeism? For example, how will it affect workers and their families if schools/daycare facilities close for weeks at a time? What can be done to support strategies of voluntary self isolation and family quarantine? What will be the effects on passenger demand of community mitigation strategies? Do workers have adequate sick leave or other compensation options available if they need to be self-quarantined and cannot work from home, and what is the near-term response and the long-term recovery impacts on the workforce and the organization? What workplace enhanced social distancing, personal hygiene, and environmental cleaning measures (e.g., teleworking, split working/meal shifts, reduced non-essential travel, and physical separation) can and should your organization implement to support community mitigation strategies? Has the organization met with the local government and its emergency response officials on the timing of their measures, alerts, and actions based on their specific response triggers? What additional external demand changes might occur when these strategies are implemented (e.g., university dismissals resulting in a sudden increase in student travel)?
<input type="checkbox"/>	Calculate potential effects of specific Community Disease Mitigation Strategies on your business, workers, and community or customer base.	
<input type="checkbox"/>	Discuss the potential impacts of these strategies with workers, their families, and with customers, supporting businesses and other stakeholders.	
<input type="checkbox"/>	Familiarize yourself with your community's pandemic influenza planning trigger points	



and the CDC's Pandemic Influenza Severity Index to determine the possible timing and use of community mitigation interventions. For more information, see: www.pandemicflu.gov/plan/community/commitigation.html#IV.

- As a substantial percentage of workers absent during an influenza pandemic may not be ill (e.g., absent due to fear, family support, resulting from impacts of mitigation strategies), does the organization's influenza pandemic plan integrate practical worker support options for these situations?

For additional useful information, including a PDF copy of the complete ***Pandemic Influenza Preparedness, Response, and Recovery Guide for Critical Infrastructure and Key Resources***, visit www.pandemicflu.gov or email your questions to dhspandemic@dhs.gov.