

JOINT TRANSPORTATION COMMITTEE

Washington State Air Cargo Movement Study

APPENDIX D RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

Submitted by



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WASHINGTON STATE AIR CARGO MOVEMENT STUDY

TASK 4: RECOMMENDATIONS AND IMPLEMENTATION STRATEGIES

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Submitted by



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1 Introduction

Previous white papers have profiled air cargo activity in Washington State, inventoried state air cargo facilities, discussed air cargo congestion, estimated future air cargo demand, prepared a capacity analysis of airport cargo facilities and evaluated opportunities for air cargo growth in the state.

The purpose of this paper is to develop a recommended Washington State Air Cargo and Logistics Business Development Strategic Plan for consideration by the state. The paper is organized in the following manner:

- Background and context
- Strategic goals and objectives
- Recommendations
- Implementation strategies
- Conclusion

The recommended statewide air cargo development strategy is based on information and synthesis of various factors related to air cargo activity around the state presented in previous white papers. Previous papers outlined the economic trends and market forces that drive air cargo in Washington state. At the same time, because of the important role that air cargo plays in the economy and the threat that future congestion could pose to it, the work highlighted the state interest in the capacity and function of the state's air cargo system. It profiled air cargo airports around the state and identified opportunities to enhance the state's air cargo system.

This paper builds on that background. The recommendations are based on an understanding of the market in which the state airports function. Recognizing the economic drivers that are beyond the state's ability to influence, and the independence of the state airports, it suggests a role that the state can play in supporting and strengthening the state airport system. The recommendations do not establish a state management or regulatory structure over independent Washington airports. Rather they are intended to assist Washington's airports in accommodating Washington's future air cargo needs.

2 Background and Context

2.1 SUMMARY AND UPDATE OF WA STATE AIR CARGO PROFILE

Air cargo in Washington state is primarily generated by activity at Seattle-Tacoma International Airport (SEA), King County International Airport (BFI) and Spokane International Airport (GEG). Seattle-Tacoma International Airport and King County International combined have an 85% share of the total State of Washington air cargo market. Spokane, the third largest cargo airport in the state, represents an 11% share of the Washington market. Other non-hub and small commercial passenger airports within the state account for only 4% of the total air cargo volumes moved in 2016.

Washington state airports handled \$47.6 billion in freight in 2015, compared to state GDP of \$452 billion. Looking into the future, the value of Washington state air cargo is expected to grow at 4.4 percent per year in real terms out to 2045. Air cargo handled by airports in the state is expected to grow to \$173.6 billion by 2045. Air cargo value is forecasted to grow faster than the general economy, implying that air cargo will play an ever more important function in the state's logistics.

Seattle-Tacoma International Airport is the dominant commercial airport in the state. It has more than 35 scheduled airlines that offer nonstop narrow-body and wide-body service to over 90 domestic and 30 international destinations. In 2017 the airport accommodated 46.9 million air passengers, up 2.6% from 2016, and processed 425,856 metric tons of air cargo, up 16.2% from the previous year.

King County International Airport (BFI), locally known as Boeing Field, is an important regional gateway airport for the integrator/express airline UPS, as well as serving as a center for business aviation and an industrial aerospace facility for the Boeing Company.

Spokane International Airport (GEG) is the dominant Eastern Washington commercial service airport. It also serves as a key air cargo transshipment and distribution center for FedEx and UPS. The Spokane International Airport Business Park is the location of a new 2.4 million square foot e-commerce fulfillment center.

A ten-year forecast for Washington State air cargo demand done as a part of this study anticipates air cargo to grow at a compounded annual average growth rate of 4.4%, resulting in 870,000 annual metric tons of enplaned and deplaned air cargo in 2026, up from 566,000 metric tons in 2016. Seattle-Tacoma International Airport is anticipated to reach 580,000 metric tons during the forecast period.

2.2 PREPARING FOR THE FUTURE: SYNTHESIS OF FINDINGS

In addition to educating policy makers about air cargo movement at Washington airports, two other key purposes for this study were to explore possibilities for accommodating the growing air cargo market at more airports around the state and to identify the State's interest and role in addressing issues arising from air cargo congestion.

The term air cargo congestion is commonly used to describe situations when demand increases beyond what airports and cargo carriers can efficiently handle. However, we need to account for the fact that the air cargo system is complex. It comprises both on-airport facilities and services (airlines, ground handlers, cargo terminals, aircraft parking, on-airport parking, Federal Inspection Services, etc.) and off-airport facilities and services (freight forwarders, trucking terminals, warehouses, sort facilities, customs brokers, shippers and receivers, etc.), and capacity constraints at any one of its components can cause congestion.

Effects of congestion appear long before capacity is reached. In congested conditions, each additional unit of cargo increases costs for everyone: higher rates, longer queues, and more unreliability. Shippers/carriers must consider alternatives or become less competitive. Additionally, due to the complex market, there are only limited immediate alternatives for a given air cargo shipment. If competitor airports are as congested or worse than a given primary gateway, the shippers may have no choice but to incur the increased costs.

As part of our analysis we considered congestion at competitive airports to Sea-Tac. In general, Sea-Tac is performs as well or better than its major competitors in terms of delays. Nonetheless, it is important for regional competitiveness to attempt to manage congestion and provide the most efficient air cargo system possible. In regards to on-airport capacity, our planning analysis found that, absent any infrastructure investment, Seattle-Tacoma International will face a deficit of on-airport cargo buildings starting in 2022 that will reach 75,000 square feet by 2026. According to the Seattle-Tacoma International Airport's Sustainable Airport Master Plan (SAMP), there will be 330,000 square feet of cargo buildings developed nearby by 2027. Another 400,000 square feet of on-airport cargo buildings are contemplated in the South Aviation Support Area (SASA), however those are not included in the near-term projects and hence would require further study after 2027. A major issue facing Seattle-Tacoma International Airport is that both of the areas proposed for future air cargo facilities at Seattle-Tacoma International will be expensive to develop and must compete for scarce Port resources being used for overall airport expansion.

Adding to the complexity of accommodating future air cargo growth at Seattle-Tacoma International Airport is that there are only limited solutions for accommodating required off-airport air cargo facilities and services. The Washington State Department of Transportation (WSDOT) has reported in 2016 that Puget Sound traffic delays have increased 91.2 percent in five years. By the year 2040, the Puget Sound region is expected to grow by about 800,000 people. Land prices are rising rapidly throughout the region, including around the airport and in nearby Kent Valley, where many distribution warehouses are located. According to a 2015 WSDOT Corridor Capacity Report, increasing congestion threatens the economic health of the Puget Sound region, home to 70% of Washington state's economic activity. The report adds that businesses will be reluctant to continue to invest and expand in the region without a modern transportation network that moves people and products reliably.

It is important to recognize that inhibitors to the growth of the Washington state air cargo industry are not only a transportation related issue, but an economic development one as well. Washington state airports handled \$47.6 billion in freight in 2015, compared to state GDP of \$452 billion. Looking into the future, the value of Washington state air cargo is expected to grow at 4.4 percent per year in real terms

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out to 2045. Air cargo handled by airports in the state is expected to grow to \$173.6 billion by 2045. Air cargo value is forecasted to grow faster than the general economy, implying that air cargo will play an ever more important function in the state's logistics.

Beyond the value of the commodities that make up the air cargo market is the fact that high-value supply chains rely on worldwide connectivity and security provided by air cargo to grow their businesses and compete in a global marketplace. Shippers value travel time by air 18 times more than travel time by truck and value reliability 142 times more by air than by truck. Risks to reliability from air cargo congestion can impose a substantial economic penalty. To remain competitive to global businesses, Washington state needs to ensure an effective and efficient air cargo network into the future.

3 Strategic Goals and Objectives

3.1 PURPOSE

The recommended purpose, goals and objectives were developed in consultation with the JTC staff, the Staff Work Group and Stakeholder panel. They are based on the understanding of the opportunities and challenges confronting the air cargo system in Washington which was developed through the course of this study process.

The purpose of preparing an Air Cargo and Logistics Business Development Strategic Plan for Washington state is to:

- Clearly define the purpose of an air cargo and logistics business development program for Washington State.
- Effectively utilize the air cargo capacity at more airports around the state.
- Establish realistic goals and objectives consistent with that purpose in a defined time frame within the State's capacity for implementation.
- Communicate those goals and objectives to air cargo stakeholders and the community.
- Ensure the most effective use is made of the State's resources by focusing on key priorities.
- Provide a base from which progress can be measured and establish a mechanism for informed change when needed.
- Build a consensus about the strategic direction Washington state airports are taking in terms of air cargo and logistics services.
- Define the State's interest and role in addressing issues arising from air cargo congestion.
- Provide policy guidance and recommendations on air cargo to supplement the WSDOT Freight and Goods Transportation System (FGTS) Plan.
- Help fulfill the vision and focus areas of the Washington Transportation Plan Phase 2, which were to:
 - Maintain and Preserve Assets
 - Manage Growth and Traffic Congestion
 - Enhance Multimodal Connections and Choices
 - Align the Funding Structure with the Multimodal Vision

The Air Cargo and Logistics Business Development Strategic Plan is also designed to provide for clearer policy and market guidance for the Washington state and provide a direct link between the state and the state's airport and air cargo community.

3.2 VISION

A vision statement is a short phrase or sentence that conveys what an organization would like to achieve or accomplish. The following vision statement describes the desired outcome for the future of air cargo facilities and services in the state of Washington:



VISION

A statewide system of on-airport and off-airport air cargo facilities, working in concert to accommodate Washington's future air cargo needs with efficient facilities and services, global access, and seamless surface distribution capabilities

This statement will be used to guide the development of more specific goals and objectives that will lead to the creation of strategies to be employed by the state to achieve this vision.

3.3 STRATEGIC GOALS

Goals are the result or achievement toward which effort is directed. The primary strategic goals for air cargo identified as part of the study process for Washington state are:

- To seek to ensure that Washington state maintains adequate in-state air cargo capacity to accommodate future levels of demand.
 - To assist airports throughout the state with optimizing their existing resources in expanding the state's air cargo capacity.
 - To be prepared to adapt in a timely manner to structural changes in supply chain management and distribution as it relates to air cargo.
 - To integrate air cargo into other statewide freight planning and economic development initiatives.
 - To make air cargo logistics a core component of Washington state's economic platform.
-

3.4 AIR CARGO STRATEGIC OBJECTIVES

The recommended strategic objectives to successfully fulfill these goals related to air cargo are as follows:

- Retain the existing air cargo service levels within Washington state.
- Expand the level of air cargo services offered by existing airlines and forwarders.

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- Attract new airlines, air freight forwarders and logistics service providers to Washington State.
- Increase the state's air cargo lift capacity during peak cherry season.
- Attract third-party logistics providers, value added manufacturers, warehouse operators, road feeder services, etc. to Washington by supporting ready-to-build off-airport industrial real estate sites at airports outside the Seattle metropolitan area.
- Implement a statewide air cargo community system to enable information exchange between public and private stakeholders in order to improve the competitive position of the state's air cargo airports and air cargo logistics service providers.
- Integrate air cargo into the WSDOT Freight and Goods Transportation System (FGTS) Plan.
- Assist non-hub airports in Washington State in developing and attracting air cargo and other logistics services opportunities.

4 Recommendations

4.1 CONCLUSIONS FROM TASK 3

An assessment of opportunities for Washington State airports to support and grow air cargo was performed in the Task 3 white paper. In addition to the state's top three air cargo airports in Seattle and Spokane, the report also included the following non-hub and small commercial passenger airports with the potential to accommodate air cargo operations:

- Bellingham Intl. (BLI)
- Grant County/Moses Lake (MWH)
- Pangborn Memorial (EAT)
- Snohomish County Paine Field (PAE)
- Tri-Cities/Pasco (PSC)
- Walla-Walla Municipal (ALW)
- Yakima Air Terminal (YKM)

The report concluded that a number of traditional and non-traditional options exist for expanding and developing new air cargo and logistics services for Washington state airports. The three most immediate air cargo development opportunities for Washington state airports are the following:

- Maintaining and expanding the existing integrator (Amazon, DHL, FedEx, UPS) operations around the state in conjunction with the private sector
- Attracting air charter operations for exports of agricultural products, particularly perishable freight and vegetables, from Central Washington airports
- Developing non-hub airports into centers for regional ground-based logistical operations

In the longer term, scheduled freighter service becomes a more realistic goal for some airports such as Spokane International, Snohomish County and, possibly, Grant County International. Also, with the emergence of e-commerce as a force in the new economy, the State of Washington should be proactive in courting e-commerce fulfillment centers, highlighting the state's airports, Pacific Rim location, developable land and gateway hubs for the major integrator airlines.

The most effective approach Washington airports can take with the integrator carriers is to be knowledgeable on each individual integrator carrier's business model, as each carrier is different, and to be attuned to both the national and local market dynamics for each individual integrator carrier. The state (to be discussed in the next section) and individual airports should build an in-house knowledge base for Amazon, DHL, FedEx, SF Express, UPS, and the US Postal Service.

Development of the air cargo charter market will hinge on an airport's ability to provide ground handling and cargo handling services for both narrow-body and wide-body freighter aircraft at a

competitive price. Proactive marketing to introduce and promote Washington State airports to the airline, freight forwarder and shipping community is also critical to expanding both the cargo charter market and scheduled service market.

To attract the logistics/distribution market, the state should promote to individual airports the “inland port” or airport logistics park model used by Rickenbacker International Airport and Huntsville International, leveraging their designations as US Ports of Entry, Foreign Trade Zones and branding themselves “Global Logistics Centres” and actively recruiting intermodal business in the ocean cargo, railroad and motor carrier markets.

As described in section 5.4 of the Task 3 paper for this study, the rationale behind marketing to the logistics/distribution industry, with the initial focus on surface distribution, is to build up the business and forwarder infrastructure in the airport region. Attracting surface-based logistics/distribution services to an airport would provide the basic freight forwarder and trucking network needed to attract air cargo and give the airport more exposure in the freight distribution industry. Certain airports can position themselves as a cost-effective supply/distribution chain distribution point. Beginning with truck-based distribution, an airport-related “Inland Port and Logistics Service Center” could also accommodate air cargo charters with the long-term strategy of attracting scheduled air cargo service.

The option of developing airport-related logistics/distribution centers, airport logistics parks or inland ports, is an ideal way for small and non-hub commercial service airports to generate non-aviation revenue while building up the facilities and services necessary to attract additional air cargo to the airport. A principal benefit to the freight transportation system is that having logistics facilities and services located strategically within the state may be able to take some of the pressure off the Port of Seattle and Sea-Tac, by accommodating activities that traditionally take place at, or near, the Port of Seattle, Sea-Tac, or in the Kent Valley. It also helps develop the basic logistics infrastructure needed to attract more business to smaller metropolitan regions of the state.

4.2 SUMMARY OF RECOMMENDATIONS

The primary recommendation as set forth in the following sections is to:

- Establish an Air Cargo Development Program, including management, resource assistance, and marketing programs

Additional recommendations include the following:

- Develop an air cargo community system
- Conduct data analysis and reporting
- Support development of Airport Logistics and Distribution Centers
- Measure performance

4.3 RECOMMENDATION 1: ESTABLISH A WASHINGTON STATE AIR CARGO DEVELOPMENT PROGRAM

Some of the airports within the state have the in-house resources necessary to engage in long-range strategic air cargo business development planning (e.g., Spokane International Airport, King County International Airport Seattle-Tacoma International), and have identified opportunities related to air cargo development, while other smaller airports intuitively recognize their unrealized potential for air cargo, but are in need of additional guidance on how to move forward to enter the market.

To be responsive to the air cargo goals and objectives stated previously, Washington State should administer a strategy comprised of the following functions:

- Air cargo development program management
- Air cargo resource development assistance program
- Air cargo marketing program

Each function is closely interrelated and dependent on each other. As documented in previous white papers, air cargo is by nature multimodal and the air cargo chain extends far beyond the airport fence line, incorporating highways, off-airport warehousing, trucking services, customs brokers, production, growing and packing facilities etc. Air cargo airports, air cargo users and air cargo service providers range widely in terms of organization, resources, functions, and priorities.

Seattle-Tacoma International Airport is operated by the Port of Seattle, a special-purpose municipal corporation serving the citizens of King County. King County International Airport is owned by King County and managed by the county's Department of Transportation. Spokane International Airport is jointly owned by Spokane County and the City of Spokane. Other airports within the state are similarly owned and operated by local government entities. At present, air cargo airports in Washington do not operate as a system.

The recommendations below are intended to provide additional support but participation in the various programs and activities by individual airports would be voluntary. The recommendations do not establish a state management or regulatory structure over independent Washington airports. Rather they are intended to assist Washington's airports in accommodating Washington's future air cargo needs.

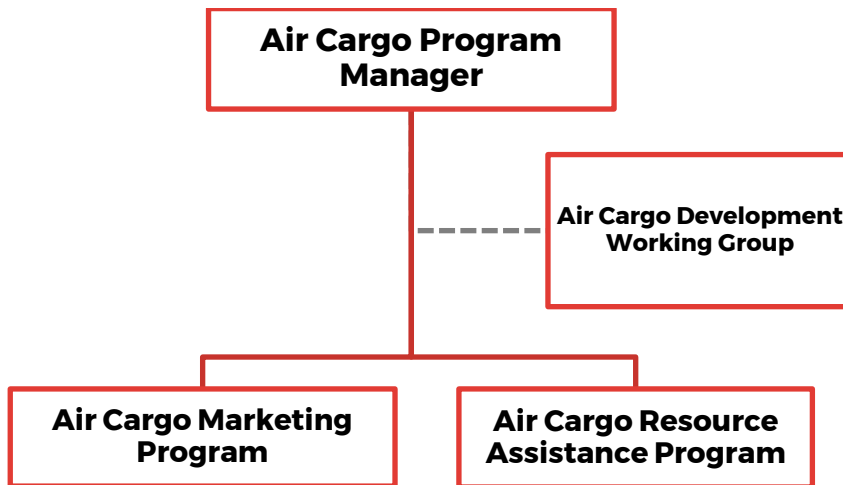
4.3.1 Air Cargo Development Program Management

The planning, organization and implementation of airport development strategies related to air cargo would take place within an organizational structure as follows:

- **Recommendation 1A: Hire Air Cargo Program Management staff**
 - Manage the Air Cargo Development program
 - Direct reporting relationship with WSDOT and/or Department of Commerce (“Commerce”)
 - Manage, monitor and track performance of the Resource Development Program and Cargo Marketing Program
 - Facilitate stakeholder relationships (airports, airlines, state regional development councils, freight forwarders, shippers, etc.)
 - Ensure air cargo operations continuity with a management plan in case of an emergency
 - Identify and research existing and emerging trends
 - Represent and advocate at industry and government meetings and events that impact Washington state (TIACA, ACI, AFA, ICAO, WCO, WAMA, etc.)¹
 - Build and manage alliance partnerships (MOUs, joint marketing efforts, etc.)
- **Recommendation 1B: Convene Air Cargo Development Working Group comprised of other departments within the state (Governor’s office, State Department of Transportation, Department of Commerce, etc.) and select stakeholders (airports, ports, local community planning organizations, shippers, freight forwarders, etc.)**
 - Coordinate State grant programs, state economic development initiatives and state marketing programs
 - Obtain feedback from stakeholder relationships
 - Identify and research existing and emerging trends and issues
 - Generate new programs and ideas

Figure 1 presents a simple depiction of the organizational structure. As previously discussed, air cargo is a complex system. It is operationally multimodal (air cargo depends on both air and truck operations) and its demand is directly related to the needs of the manufacturing, retail and agricultural industries. Beyond the value of the commodities that make up the air cargo market is the fact that high-value supply chains rely on the worldwide connectivity and security provided by air cargo to grow their businesses and compete in a global marketplace. Therefore, the two likely candidates to be engaged in air cargo issues within the state government are the Department of Transportation (WSDOT) and the Department of Commerce (Commerce).

¹ The International Air Cargo Association, Airport Council International, Airfreight Forwarders Association, International Civil Aviation Organization, World Customs Organization, Washington Airport Managers Association.

Figure 1. Air Cargo Development Program Organization

Among the various Washington State transportation agencies that may have an interest in air cargo and freight operations are WSDOT's Aviation and Freight Transportation Divisions and the Washington State Freight Mobility Strategic Investment Board (FMSIB). WSDOT Aviation, among other things, manages the Washington Aviation System Plan (WASP). Most of the programs and responsibilities related to WSDOT Aviation are geared toward small commercial and general aviation airports, but alongside of safety and airport infrastructure improvements, economic development and vitality are also a stated goal of the current WASP. Both WSDOT's Freight Division and FMSIB are responsible for facilitating freight movement between and among local, national and international markets which enhances trade opportunities. Both freight programs are focused primarily on surface-transportation modes, including roads, rail, trucks and seaports.

Commerce describes itself on its web site as "the one agency in state government that touches every aspect of community and economic development: planning, infrastructure, energy, public facilities, housing, public safety and crime victims, international trade, business services and more." Three offices within Commerce that may have direct interest in air cargo issues are the Office of Economic Development and Competitiveness (OEDC), the Public Works Board and the previously mentioned Community and Economic Revitalization Board (CERB).

Clearly, participation by state aviation, freight transportation, and Commerce programs are all necessary to deal with policy, infrastructure, operational and market development needs of the air cargo logistics industry within the state. The key, however, is how to coordinate not just future airfield, highway and warehouse capacity needs and funding, but how to create an evolving air cargo logistics system in Washington that will allow the state to attract, and cultivate, new industries that rely on highly efficient supply chains and worldwide connectivity.

4.4 RECOMMENDATION 2: CREATE AN AIR CARGO ASSISTANCE PROGRAM

Often the greatest hurdle for smaller airports is overcoming the lack of air cargo facilities and services. Air cargo terminals are expensive to build and aircraft ground handling equipment is expensive to

purchase and maintain. The State can create an outreach initiative to assist the state's airports. The purpose of an air cargo resource assistance program is to help the state's airports in the timely creation of services, facilities and support for which they have determined there is a perceived market need. Some examples from around the country include:

- Assisting airports in identifying and securing existing grants for acquisition of machinery and equipment, new building construction, building acquisition, on- or off-site infrastructure improvements, and other fixed asset investments
- Securing tax credits as an incentive to attract companies to locate at a particular airport
- Sales tax abatements on construction materials used in air cargo facility construction
- Loans for land and building acquisition, construction, expansion, or renovation, and equipment purchases
- Matching grants to assist airports in developing air cargo market assessment studies
- Providing expertise and advice on the creation and operation of an airport Foreign Trade Zone (FTZ)

The rationale of this program is threefold:

- To act as a clearing house and resource center, assisting airports that have an interest in developing their air cargo market to navigate the various existing state and federal grants that can be utilized by the airport to improve existing, or create new, air cargo facilities and services
- To identify the need for new sources of funding and support that Washington State airports can utilize to meet air cargo market requirements
- To help develop new legislative policy initiatives to promote and encourage air cargo development throughout the state

It is envisioned that the air cargo resource assistance program would work closely with Office of Economic Development and Competitiveness (OEDC) and the Public Works Board and Community and Economic Revitalization Board (CERB) within the Washington Department of Commerce, and the Freight Systems Office and the Office of Aviation within the Department of Transportation. These are established entities within the Washington state government that have already established programs directly applicable to furthering the development of air cargo facilities and services within the state, yet have no specific mandate, or even recognition, of issues related directly to air cargo and the importance of air cargo capacity to the state's future economic development.

4.4.1 Recommendation 2A: Provide Air Cargo Resource Assistance

Inform airports throughout the state of the opportunity to approach the state for technical assistance in securing grants or matching funding for acquisition of machinery and equipment, new building construction, building acquisition, on- or off-site infrastructure improvements, and other fixed asset investments.

4.4.2 Recommendation 2B: Identify resource gaps and develop policies and programs to address them

If new programs or policy needs are identified, the CPM and Working Group should work together to develop new legislative policy initiative that support air cargo development throughout the state.

4.5 RECOMMENDATION 3: AIR CARGO MARKETING PROGRAM

The term “marketing” covers many different activities—all associated with selling an organization’s products and services. Advertising is the most obvious marketing activity, but so is customer research that better matches a product or service to customer or tenant wants and needs.

Strategic air cargo marketing encompasses determining the need for a facility or service through customer research and by observing and quantifying sales patterns of similar facilities or services in the marketplace; identifying needs to modify existing facilities or services or create new facilities or services to match customer wants and needs; determining how best to reach potential customers to make them aware of an airport’s facilities or services and to persuade them to utilize them; and creating marketing campaigns based on determinations of the most effective way of reaching customers, confirming customer relationships via follow-up sales campaigns.

For the state’s smaller airports to build their air cargo market, they will need to engage in some type of marketing effort to gain exposure to potential customers, be they airlines, forwarders, shippers, or logistics service providers. Airports will also need good market intelligence in order to know the needs and price points of their potential customers/tenants. Today, most of the state’s airports lack the funding and industry expertise to market to the global air cargo industry on an individual basis.

An important role that the state can fulfill is to assist airports in gaining exposure to the marketplace by helping coordinate individual airport direct sales efforts with general indirect marketing aimed at a broad range of promotional efforts for Washington state airports. The concept is for the state not to direct market or “sell” for individual airports, but rather to work with airports in the state and other Washington State government departments, such as the Office of Economic Development and Competitiveness (OEDC) and the Governor’s Office, to promote Washington’s airports on international trade missions, participate in trade shows as group exhibitors, and offer grants to help support airport attendance at domestic and international air cargo events.

4.5.1 Recommendation 3A: Brand and Promote Washington State Air Cargo Airports through General/Indirect Marketing

The targets for the direct sales efforts by individual airports will be more receptive if the market previously became broadly aware of Washington state attributes as an air cargo logistics center. To create that awareness, to reinforce direct sales calls by airports, and to generate direct sales leads, the general marketing program should include a range of general promotion efforts. Those efforts may include both passive elements (press releases, brochure mailings, etc.) and active elements (attendance at industry meetings, presentations at user conferences, etc.). A key component is to create global

brand awareness of Washington State's economic opportunities with a consistent worldwide message and theme.

- Create a marketing campaign to promote the use of Washington state airports. Overall, the theme could focus on exports. One key theme should center on central Washington airports that can accommodate international exports of Washington grown agricultural products. Air cherry charters, in particular, are an immediate opportunity that could handle more of the cherries through Washington airports and take pressure off of Sea-Tac at peak.
- Attend international air cargo events to promote Washington airports.
- Organize and design a joint-use exhibition display booth to promote Washington state airports at air cargo forums and exhibitions.
- Organize attendance of interested Washington State airports at the International Air Cargo Association (TIACA) Air Cargo Forum 2020.

4.5.2 Recommendation 3B: Market Analysis and Refinement

An important function of the Marketing Program will be continued tracking of trends and refinement of the Washington state market opportunities. This research should then inform the marketing campaign and promotion activities.

4.6 RECOMMENDATION 4: DEVELOP AN CARGO COMMUNITY SYSTEM

In order for Washington to facilitate coordination among on-airport and off-airport air cargo facilities and create a competitive advantage in comparison to other states, the various stakeholders in the cargo community, such as airports, forwarders, ground handlers, airlines and customs, all need to communicate and cooperate.

An Airport Community System (often called a CCS: Cargo Community System) can be defined as a neutral and open electronic platform enabling intelligent and secure information exchange between public and private stakeholders, in order to improve the competitive position of airport communities.

The Cargo Community System concept is broad and can range from the simple to the complex. A simple system may be a dedicated web portal and/or social media site that provides a forum for identifying and discussing local air cargo issues; and provides updated airline schedules, cargo aircraft arrival information, air cargo terminal delays, airport roadway congestion, warehouse vacancies, employment information, etc. A more sophisticated system in place at airports such as Brussels, Amsterdam, Frankfurt, Incheon, Hong Kong, Dubai, Mumbai, Malpensa provides real-time exchange of operational and other information between the various players (industrial shippers, operators, truckers, handling agents, airlines, customs, etc.) through single window IT platforms.

As envisioned for Washington State, the Air Cargo Community System is to be a registered industry association to represent and foster the common interests of all the players involved in the cargo industry in Washington. Airport and air cargo industry associations are relatively common in the US, although they don't tend to achieve the level of information exchange common in other countries. The

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International Air Cargo Association of Chicago (IACAC)² is an example of the type of airport air cargo association in the US, which typically provide industry information, forums, opportunities for networking and promotion for members.

Initially, the Washington State Community Air Cargo System can begin with a dynamic stand-alone web site identifying and discussing local and statewide air cargo issues; providing real-time airline schedules and cargo aircraft arrival information, air cargo terminal delays, weather information, and airport and regional roadway congestion. The Washington State Air Cargo Community System (WSCCS) will also be used as an outreach and information dissemination platform for the Air Cargo Resource Management Program and state air cargo marketing initiatives.

Over time, a more active association which provides more services to members could be developed.

A more long-term goal, is to consider development of a neutral and open electronic platform to secure information exchange between the various proprietary electronic systems currently used by existing cargo terminal operators and local freight forwarders and truckers. Commercial platforms to accomplish this are available and should be explored.

4.6.1 Recommendation 4A: Create a web portal to provide information on Washington State air cargo airports

The portal would detail the air cargo facilities and services available at each airport, including contact information.

4.6.2 Recommendation 4B; Establish Washington Air Cargo Association

The association could provide industry information, forums, networking and other services to members.

4.6.3 Recommendation 4C: Initiate a study on the feasibility of an open electronic platform

The purpose of the platform would be to enable intelligent and secure information exchange that will allow the tracking and tracing of air cargo between cargo warehouses, airlines and forwarders.

4.7 RECOMMENDATION 5: AIR CARGO STATISTICS AND DATA COLLECTION

Air cargo data collection is problematic, both at the industry and airport level. Historical air cargo data is limited and activity by carrier and cargo type at many airports in Washington State is unavailable. It is only by accurate data reporting that trends can be observed and performance can be measured.

² <https://www.iacac.com/>

4.7.1 Recommendation 5A: Airport Air Cargo Data Reporting

Introduce a standardized statewide air cargo data reporting form. At a minimum, the report form should include units of enplaned and deplaned air cargo, categorized as international or domestic by air carrier. The report form should also include landings by all-cargo aircraft, by aircraft type and air carrier.

Other desirable air cargo metrics include enplaned and deplaned air cargo by combination carriers (belly carriers) and freighter operators, and number of truck trips to and from air cargo terminals.

4.8 RECOMMENDATION 6: SUPPORT DEVELOPMENT OF AIRPORT LOGISTICS/DISTRIBUTION CENTERS

An airport can be thought of as a key intersection between air logistics and real estate. Airlines and airports are only one part of a larger eco-system of support services and facilities that comprise the air cargo supply-distribution chain. An area of non-traditional infrastructure development related to air cargo that was introduced in previous working papers is the concept of airport logistics/distribution centers. Logistics/distribution centers can provide the base for an indirect strategy of attracting air cargo service as part of a larger multimodal distribution concept. Contract logistics/distribution services are typically third-party providers that manage all, or particular segments, of the various functions that comprise a company's logistics system: transportation, inventory, materials handling, warehousing, customer service, order processing, or any other activity that creates value. Air cargo is a component but often is not the principal driver of services; nevertheless, growth in broader services can breed growth in air cargo.

The option of developing airport-related logistics/distribution centers or airport logistics parks is a way for small and non-hub commercial service airports to generate non-aviation revenue while building up the facilities and services necessary to attract additional air cargo to the airport. A principal benefit to the Washington state freight transportation system is that having logistics facilities and services located strategically within the state may be able to take some of the pressure off the Port of Seattle and Sea-Tac, by accommodating activities that traditionally take place at, or near, the Port of Seattle, Sea-Tac, or in the Kent Valley. It also helps develop the basic logistics infrastructure needed to attract more business to smaller metropolitan regions of the state.

Ultimately the vision statement calls for a system of on-airport and off-airport air cargo facilities working in concert to accommodate Washington's future air cargo needs with efficient facilities and services, global access and seamless surface distribution capabilities.

The planning of an airport logistics park is unique and is more than just a collection of air cargo terminals and warehouses. Air cargo has specific operating and security needs that are very different than those associated with typical logistics functions. The design, nature, and location of facilities must be compatible with airport operations, tenants' operating and safety requirements and special customs security requirements. Connections between the aeronautical areas and the air cargo logistics park should be secure and operationally efficient. Also important is that the plan must reflect the realities of the local and global marketplace.

When planning for airport-centric development, the following factors should be considered:

- Market demand;
- Sufficient airport infrastructure;
- Air and surface connectivity;
- Funding sources for development;
- Other regional economic development initiatives; and,
- Collaboration among stakeholders.

Sufficient airport infrastructure typically refers to facilities already in place to accommodate commercial air activities. Air and surface connectivity refers to routes taken by passengers or cargo to and from the airport to and from other destinations that may be enhanced by highway, rail, and port construction. Obviously, funding is a key consideration, whether self financed, use of Public Private Partnerships, or utilizing a private developer. The airport logistics park should also be considered as a way to enhance, or leverage, other regional development initiatives; and “Collaboration among stakeholders” refers to the various actions that stakeholders can take to reach the goals and objectives that may further airport-centric development.

4.8.1 Recommendation 6A: Create a Guidebook for the development of airport logistic parks and Free Trade Zone creation and operation.

4.8.2 Recommendation 6B: Develop or adapt a grant program to assist airports to perform air cargo market analysis, feasibility studies and determination of air cargo facility requirements.

4.9 RECOMMENDATION 7: MEASURE PERFORMANCE

Measuring performance is important to determining the success of the Washington State Air Cargo Development Strategic Plan. The key performance indicators (KPI) listed in this section are a way of quantifying the progress of the air cargo business development program. The KPIs identified in this section are designed to measure long-term trends in the state rather than to track the progress of specific marketing initiatives. The KPIs also provide a baseline for airport-to-airport comparative analysis.

4.9.1 Key Performance Indicators

- Number of wide-body freighter landings (domestic and international)
- Number of narrow-body freighter landings
- All-cargo aircraft landed weight³

³ All-cargo aircraft landed weight is a metric used by the FAA and is the certificated maximum gross landed weight (MGLW) of the aircraft type as specified by the aircraft manufacturer, whether empty or full.

- Tons of air cargo
- Tons of international air cargo (traditional and express)
- Tons of domestic air cargo (traditional and express)
- Tons of cargo by aircraft type (passenger vs. freighter)
- Square footage of air cargo terminal space (both used and available)

The KPIs listed here are basic to monitoring long-term trends at each individual airport and collectively for the whole state. The Air Cargo Program Manager may want to modify this list based on input from the Air Cargo Working Group.

5 Implementation Strategy

The purpose of the Air Cargo and Logistics Business Development Strategic Plan is to provide a road map for the State to follow in setting a course for building an air cargo development agenda and seeing ideas put into action.

The implementation portion of the plan generally defines how the various strategies could be realized. As outlined in the previous section, to achieve a statewide system of on-airport and off-airport air cargo facilities working in concert to accommodate air cargo demand, it is recommended that the legislature establish the creation of an air cargo management program or otherwise charge an existing agency with promoting the coordination of air cargo marketing and facilities development across the airport system.

- **Air Cargo Resource Management Program** – A coordinated program to ensure the timely creation of services and facilities for which there is a perceived market need (revitalization of existing infrastructure, creation of new facilities, creation of a Community Cargo System, air cargo logistics parks, etc.)
- **Air Cargo Marketing Program** – A program with a focus on brand creation and dissemination, implementation of marketing strategies, promotion of the value of using Washington State airports, customer research and market intelligence, advertising campaign, conference participation, etc.
- **Air Cargo Program Management** - Each of the above program elements are interrelated and are dependent upon a strong program manager to coordinate efforts and advocate for moving the State forward in achieving the objectives outlined previously.

A key task for the Cargo Program Manager is the development and maintenance of a more detailed implementation plan with specific actions, timing, priorities and responsibilities required for execution of the recommendations outlined in this report. To be successful in their role, it is recommended that the Cargo Program Manager have a direct internal reporting line to WSDOT and/or Commerce.

The primary skill for the Air Cargo Program Manager (CPM) is to be knowledgeable of the air cargo industry and of air cargo activity in Washington State, as well as the resources within the various programs operated by government.

Important tasks associated with this effort include initiating and maintaining regular personal contact with air cargo stakeholders and being proactive in identifying competitive opportunities. This effort requires the CPM to maintain a scheduled pattern of personal contacts with state airports, key air cargo forwarders and carriers. The cargo manager should strive to maintain familiarity with the plans, goals and services of existing airport and potential air cargo stakeholders.

A major responsibility of the CPM is to establish and coordinate the efforts of an Air Cargo Working Group. The make-up of the Group can be flexible, and may consist of the CPM, representatives from various state administrative divisions such as Governor's office, State Aeronautics Commission, State

Highway Commission, Department of Commerce, etc., and select stakeholders (e.g. airports, Port Authorities, local community planning organizations and others as appropriate).

The Air Cargo Working Group should meet quarterly to review the progress of the strategy and implementation of the Resource Development Program and the Marketing Program, making any adjustments and adding new ideas and suggestions as necessary. Guidelines to managing the Air Cargo Working Group meetings are presented in this section using various umbrella strategies and related evaluation criteria to measure progress and stimulate discussion.

5.1 UMBRELLA STRATEGIES

The umbrella strategies presented below are examples of focus areas to guide the CPM and Air Cargo Working Group's efforts to manage the team's resources, and assessing and monitoring progress in achieving the Air Cargo Strategic Plan's objectives. They are based on various needs identified from the previous chapters in the technical report. The quarterly evaluation questions will need to be modified or changed to meet the current situation.

Umbrella Strategy: Ongoing Market Analysis

Work Items:

- Analyze current trend of air cargo in the State of Washington, including how cargo demand levels are changing the growth rates airports are able to accommodate
- Examine air cargo data availability and acquisition issues
- Institute status updates on new initiatives, for example, cherry season charters to/from central and eastern Washington airports

Umbrella Strategy: Refine the Air Cargo Markets for Washington State

Work Items:

- Obtain new information about Washington's air shipping needs and the potential of carriers, freight forwarders, and logistic/distribution service providers to expand or initiate new cargo activity through Washington State airports

Umbrella Strategy: Airport and Community Outreach Program

Work Items:

- Keep in touch with airports and the local communities
- Identify areas of concern
- Identify potential communication strategies

Umbrella Strategy: General Promotion

Work Items:

- Raise awareness of airports' cargo capabilities
- Adjust target markets
- Evaluate effectiveness of advertising campaigns:
 - Results of focus groups
 - Ad clicks
 - Number of customer inquires
- Meet with air carriers, forwarders, logistics providers, other cargo service providers to identify needs and opportunities for air cargo development
- Identify competitive opportunities of interest to carriers or service providers

Umbrella Strategy: Facility and Service Development Program

Work Items:

- Monitor status of air cargo capital development projects
- Monitor status of air cargo service initiatives
- Meet with airports to identify needs and opportunities for air cargo development, including facility requirements and levels of satisfaction
- Monitor status of initiatives to improve facilities for freight forwarders

Overall, the air cargo development program will require a sustained effort by the Cargo Program Manager and the Air Cargo Development Group in identifying and building relationships with the airports, forwarders and air carriers operating in Washington State. The Air Cargo Development Group should meet on a regular basis to review the validity of the marketing strategy and the progress of the implementation of the Air Cargo Strategic Development Plan, making any adjustments and adding new ideas and suggestions as warranted.

5.2 SUMMARY OF RECOMMENDATIONS

Implementation of specific recommendations should begin immediately. Many recommendations can be implemented in the short term.

Table 1 summarizes the proposed recommendations. It includes an assessment of the relative priority (high, medium or low) as well as a general indication of timing (short, medium or long term). The recommendations are focused on the higher priority actions that could be completed in the near- and medium-term. After the Air Cargo Development Program gets underway, the Air Cargo Development Manager and the Air Cargo Working Group are expected to identify a more specific action plan and longer-term recommendations.

Table 1. Summary of Recommendations

Recommendation	Potential Lead Entity	Priority	Timing
Recommendation 1: Establish Air Cargo Development Program	Legislature	H	S
Recommendation 1A: Hire Air Cargo Program Management staff (CPM)	WSDOT	H	S
Recommendation 1B: Convene Air Cargo Development Working Group	CPM	H	S
Recommendation 2: Create Air Cargo Resources Program	CPM	H	S
Recommendation 2A: Provide Air Cargo Resource Assistance	CPM	H	S
Recommendation 2B: Propose New Policies and Programs as Needed	CPM/Air Cargo Working Group	H	M
Recommendation 3: Establish Air Cargo Marketing Program	CPM	H	S
Recommendation 3A: Brand and Promote WA Airport System	CPM	H	S
Recommendation 3B: Continued Market Analysis	CPM	H	M
Recommendation 4: Develop Cargo Community System	CPM	H	M
Recommendation 4A: Create a Web Portal with Information on WA Airports	CPM	H	S
Recommendation 4B: Establish WA Air Cargo Industry Association	Working Group	H	M
Recommendation 4C: Initiate a Feasibility Study	CPM	H	S
Recommendation 5: Collect Air Cargo Statistics and Data	WSDOT Aviation	M	S
Recommendation 5A: Report Air Cargo Data	WSDOT Aviation	M	M
Recommendation 6: Support Development of Airport Logistics Centers	CPM	H	M
Recommendation 6A: Develop Guide for Establishment of Airport Logistics Parks and Free Trade Zones	CPM	H	M
Recommendation 6B: Develop or Adapt Grant Program for Air Cargo Feasibility Studies	CPM	H	M
Recommendation 7: Measure Performance	CPM	H	M

6 Conclusion

This paper presented a recommended Washington State Air Cargo and Logistics Business Development Strategic Plan. It described background and context, strategic goals and objectives, recommendations and implementation strategies, actions, timing, priorities and responsibilities.

The Plan recommends creation of an Air Cargo Development Program to be led by a new position, the Air Cargo Program Manager, that would be housed in either the Department of Commerce or Transportation. The Air Cargo Program Manager would be responsible for convening an Air Cargo Development Group from existing agency staff and working with them to implement the following activities:

- Cargo Community System
- General/Indirect Marketing
- Air Cargo Statistics and Data Collection
- Facility and Service Development
- Airport Logistics/Distribution Centers

A more detailed implementation plan will need to be developed by the Air Cargo Development Working Group and Program Manager to address specific actions and responsibilities regarding the individual recommendations in order for them to come to fruition.