

Appendices

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Appendix I: Key Respondents and ITTL Events

Key respondents

Center of Excellence for Global Trade and Supply Chain Management

City of Seattle Office of Economic Development

Greg Shelton, Consultant

Manufacturing Industrial Council

Pacific Associates

Pathways to Careers

Port of Seattle – Air Cargo Operations and Development

Seattle Jobs Initiative

Seattle-Tacoma Air Cargo Association members

South Seattle Community College

Trade Development Alliance of Greater Seattle

ITTL Event Participation

Center of Excellence for Global Trade and Supply Chain Management Skills Gap Forum

Worksource Transportation and Logistics Job Fair and Employer Panel

Maritime Career Fair

Appendix 2: Research Methodology Detail

This Appendix provides more detail on the six research methods used in this report.

ITTL Employer Interviews: Port Jobs interviewed 25 employers, using a variety of approaches. Ten (10) interviews were conducted in partnership with the Manufacturing Industrial Council (MIC), a group which advocates for industrial businesses and has a commitment to retaining family-wage jobs and preparing young people for industrial careers. The remaining 15 ITTL employer interviews were conducted by phone, at job fairs, through focus groups, and/or on site at employer worksites. In total, the companies represented include:

- Freight forwarding
- Trucking
- Warehouse/transload/cold storage
- Air cargo
- Railroad (short-line)
- Marine transportation
- Retail-distribution center
- Customs brokerage
- Ship repair
- Marine terminal operator
- Cargo screening

Note that responses provide insight about the needs of selected ITTL employers and are not conclusive, due to the limited size of the interview pool. In an effort to mitigate this data limitation, Port Jobs used several data sources, outlined here, including a comprehensive scan of employer job descriptions. By looking at all of these sources in tandem Port Jobs was able to develop a deeper and broader understanding of ITTL hiring and advancement opportunities in the areas identified as priorities.

Stakeholder Meetings: Port Jobs met with several stakeholders involved in local and regional ITTL efforts regarding their current employment, training, and research efforts. These discussions were used to determine whether efforts could be better integrated and/or aligned to support the ITTL sector and the entry and advancement of workers in this field.

Interviews included the Port of Seattle, Center of Excellence for Global Trade and Supply Chain Management, City of Seattle Office of Economic Development, Pathways to Careers, South Seattle Community College, Trade Development Alliance of Greater Seattle, Seattle Jobs Initiative, and Pacific Associates.

In addition, Port Jobs participated in several ITTL events, including the Center of Excellence for Global Trade and Supply Chain Management Skills Gap Forum, WorkSource Transportation and Logistics Job Fair and Employer Panel, and Maritime Career Fair.

Job Openings Scan: During the week of July 15-19, 2013, Port Jobs did a scan of ITTL job openings in King County that required an Associate’s Degree or less. This review was conducted to develop a snapshot of the types of job openings available and hiring requirements. Port Jobs searched 10 career websites including: Airport Jobs, Beyond.com, Council of Supply Chain Management Professionals, Indeed.com, JobsinLogistics, Monster.com, Port of Seattle, Simplyhired.com, Warehouse Education and Research Council, and WorkSource. In addition, Port Jobs reviewed 100 company websites.

Forty-seven (47) companies posted 84 jobs during this period. A few companies indicated how many openings there were in each position; these tended to be temporary staffing agencies looking to fill warehouse positions. With this information we estimate that there were at least 118 openings at these companies.

Table 1 shows the companies that listed openings, the number of job listings, and the number of openings per listing, if known.

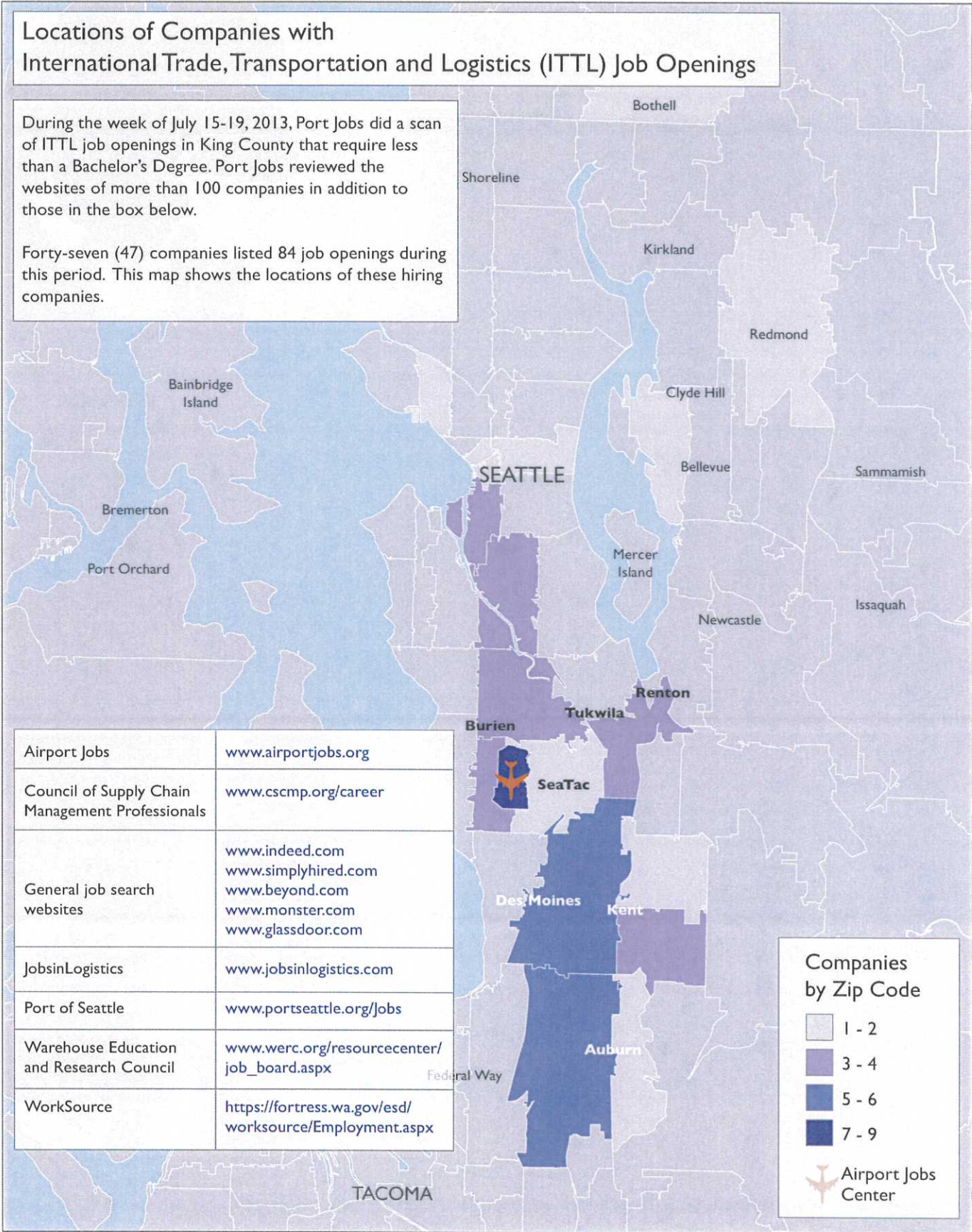
Figure 1: Companies with Job Openings July 15-19, 2013

Company	# of job listings	# of openings
3D Systems	1	not listed
Aerotek	1	1
Aircraft Service International Group	3	not listed
ALTA Air Logistics	1	not listed
American Tire Distributors	1	not listed
Bureau Veritas	1	not listed
CH Robinson	1	not listed
Costco	5	not listed
DHL	7	2 jobs - 1 opening each
Exotic Metals Forming Co	1	1
Expeditors	2	not listed
FedEx	4	2 jobs - 1 opening each
Forward Air	1	not listed
Frontier Airlines	1	not listed
Gate Safe	1	not listed
HMS Host	1	not listed
Home Depot	5	not listed
Horizon Distributors/SPC Pools	1	not listed
Huntleigh	1	not listed
Ikea	2	not listed
Integrated Airline Services	5	not listed

Company	# of job listings	# of openings
Jas Forwarding	1	not listed
Long-distance trucking company	1	not listed
LSG SkyChef	1	not listed
Manpower	1	warehouse clerk (10 openings in E King; 10 openings in Seattle)
Menzies Aviation	2	not listed
MIQ Logistics	1	not listed
Northwest Staffing Resources	1	warehouse 10 openings
Ocean Beauty	1	not listed
Office Depot	1	not listed
OHL	2	not listed
OMAX Corp.	1	1
Pace Staffing Network	1	warehouse 2 openings
Panalpina	2	not listed
Panasonic Avionics Corp	1	not listed
Physio-Control	1	not listed
REI	2	1 job - 1 opening
Seafreeze	1	warehouse 5 openings
Smart Talent	1	not listed
SOS Staffing Services	1	1
Starbucks	1	not listed
Swissport Inc	2	not listed
TW Services	1	freight handler 2 openings
Uline	1	not listed
UPS	4	not listed
UTI	2	not listed
Yusen Logistics	4	not listed

Figure 2 on the next page shows the locations of these 47 companies.

Figure 2



*Data Source: PortJobs, Washington Geospatial Portal



Port Jobs Client Data: Port Jobs client data were mined to gather selected demographic data about the residence of people who visited and got jobs through the Airport Jobs center, including job seekers who got jobs with air cargo companies at Sea-Tac Airport.

Review of local and national ITTL focused research: ITTL research from across the United States was reviewed by issuing a “call out” on LinkedIn to persons engaged in ITTL work and program development. This request resulted in 23 ITTL-related reports and articles being forwarded to Port Jobs. Telephone follow-up with the authors of two reports was also conducted to garner more information. The research was collected to get a better understanding of ITTL workforce training, partnerships and programs and effective practices used in other areas of the country.

Labor Market Information and Methodology: Labor market data from the Washington State Employment Security Department were collected to identify projected employment, annual openings, demand, and hourly wages for selected occupations. Specific data, available through www.workforceexplorer.com, included:

- 2011-2016 long-term occupational employment projections, released May 2013 (Seattle-King County)
- 2013 occupational employment and wage estimates (Seattle/ Bellevue/ Everett Metropolitan Division)
- Occupations in demand (Seattle-King County Workforce Development Area)
- Industry-Occupation Matrix for Q2_2012, released May 2013. (Seattle-King County)

First, Port Jobs defined the ITTL sector by using (15) 4-digit NAICS codes.³³ Port Jobs applied the same NAICS code definition used in our 2006 report *Employment and Logistics in International Trade*, which included (14) 4-digit NAICS codes, and added one 4-digit code (4921 – Couriers and Express Delivery), for a total of 15 codes. See Figure 3.

³³ NAICS, or North American Industry Classification System, and is the standard system used by Federal agencies to classify businesses by industries. See: <http://www.census.gov/eos/www/naics/>

Figure 3: ITTL Defined by NAICS Codes

4-digit NAICS codes used in this study	Which include these 6-digit NAICS Code	Component
4811	481111	Scheduled Passenger Air Transportation
	481112	Scheduled Freight Air Transportation
4812	481211	Nonscheduled Chartered Passenger Air Transportation
	481212	Nonscheduled Chartered Freight Air Transportation
	481219	Other Nonscheduled Air Transportation
4821	482111	Line-Haul Railroads
	482112	Short-Haul Railroads
4831	483111	Deep Sea Freight Transportation
	483112	Deep Sea Passenger Transportation
	483113	Coastal and Great Lakes Freight Transportation
	483114	Coastal and Great Lakes Passenger Transportation
4832	483211	Inland Water Freight Transportation
	483212	Inland Water Passenger Transportation
4841	484110	General Freight Trucking, Local
	484121	General Freight Trucking, Long-Distance, Truckload
	484122	General Freight Trucking, Long-Distance, Less Than Truckload
4842	484210	Used Household and Office Goods Moving
	484220	Specialized Freight (except Used Goods) Trucking, Local
	484230	Specialized Freight (except Used Goods) Trucking, Long-Distance
4881	488111	Air Traffic Control
	488119	Other Airport Operations
	488190	Other Support Activities for Air Transportation
4882	488210	Support Activities for Rail Transportation
4883	488310	Port and Harbor Operations
	488320	Marine Cargo Handling
	488330	Navigational Services to Shipping
	488390	Other Support Activities for Water Transportation
4884	488410	Motor Vehicle Towing
	488490	Other Support Activities for Road Transportation
4885	488510	Freight Transportation Arrangement
4889	488991	Packing and Crating
	488999	All Other Support Activities for Transportation
4921		Couriers and Express Delivery
4931	493110	General Warehousing and Storage
	493120	Refrigerated Warehousing and Storage
	493130	Farm Product Warehousing and Storage
	493190	Other Warehousing and Storage

Port Jobs reviewed labor market data for 12 occupations from the Standard Occupational Classification (SOC) System using long-term occupational projections. See Figure 4. Selected SOC Occupations most closely resembled those found in a scan of job openings conducted in July 2013, and/or are among the occupations with the highest employment in ITTL NAICS industry codes. “On board” jobs such as captains, sailors, and pilots were not included in this review, nor were other transportation occupations, like taxi drivers, that are often included in ITTL studies.

Since occupational projections include employment across *all* industries, not just ITTL, Port Jobs estimated the percentage of the occupation found in ITTL industries using the Seattle-King County Industry-Occupation Matrix. For example, 96% of Freight and Cargo Agents are found in the 15 ITTL NAICS codes; by contrast, only 6% of Customer Service Agents are found in these codes. Port Jobs applied these percentages to each occupation’s employment numbers to estimate employment in ITTL. See Appendix 5 for these employment estimates.

Figure 4: Selected Occupations for Labor Market Review

Occupation (SOC) Title	SOC #
Transportation, Storage and Distribution Managers	11-3071
Industrial Truck and Tractor Operators	53-7051
Customer Service Representative	43-4051
Cargo and Freight Agent	43-5011
Truck Drivers, Heavy and Tractor-Trailer	53-3032
Laborers and Freight, Stock, and Material Movers, Hand	53-7062
First-Line Supervisors of Helpers, Laborers and Material Movers-Hand	53-1021
Light Truck or Delivery Service Driver	53-3033
Shipping, Receiving, and Traffic Clerks	43-5071
First line supervisors of transportation and material moving machine and vehicle operators	53-1031
Industrial Machinery Mechanics	49-9041
First-Line Supervisors of Office and Administrative Support Workers	43-1011

Appendix 3: Port Jobs International Trade, Transportation and Logistics (ITTL) Reports

Logistics and International Trade: Career Ladders and Training Programs in an Evolving Sector

This national scan highlights post-secondary certificate and degree programs that prepare workers for entry-level jobs in the ITTL sector. The scan examines training programs that are available for entry-level ITTL workers, who they serve, and gaps in training or services that might prevent disadvantaged workers and job seekers from working or advancing in the ITTL sector. (2008)

Big Rig , Short Haul: A Study of Port Truckers in Seattle

If your image of truck driving is of an eighteen-wheeler speeding down America's wide-open highways, think again. This study takes a comprehensive look at the role of truck drivers in the movement of freight and the economics of the owner-operator business model. It contains the results of a survey of port truckers, and includes key findings and recommendations. (2007)

Employment in Logistics and International Trade: Opportunities with Limitations

This study examines whether the ITTL sector in King County can provide the same kind of career opportunities once provided by manufacturing. This initial scan found that while the ITTL sector does provide a good number of entry level jobs that pay comparable wages to the manufacturing sector, advancement may be limited for workers who lack advanced education. (2006)

These reports are available on Port Jobs' website at: www.portjobs.org/policy-a-research.

Appendix 4: Selected Bibliography

Dena Horton, Clark College. *Freight Mobility Workforce Issues, Trends, and Recommendations for the Transportation Industry in the Pacific Northwest*. 2005.

Educational Data Systems Inc., *Transportation, Distribution, and Logistics Career Center Final Report and Business Assessment Summary*, December 2010.

"Finding Fresh Talent", *Air Cargo World*, November 2011, pgs 23-24.

Georgia Center of Innovation for Logistics, *The Logistics of Education and Education of Logistics: Exploring the Supply and Demand of the Logistics Workforce*, 2012.

John McCurry, "Industry faces hard work to attract new blood," *Air Cargo World*, March 15, 2013.

J. Petersen, *Air Freight Industry White Paper*, The Supply Chain and Logistics Institute, H. Milton Stewart School of Industrial and Systems Engineering, Georgia Institute of Technology, April 1, 2007.

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Port Jobs, *Logistics and International Trade: Career Ladders and Training Programs in an Evolving Sector*, 2008.

Port of Seattle, *Central & Eastern Washington Export & Tourism Roundtable Forums and Tour Briefing Book*, 2013.

Puget Sound Regional Council, *PSRC Regional Air Cargo Strategy*, Final Report October 2006.

Puget Sound Regional Council, *Regional Economic Strategy for the Central Puget Sound Region: ECONOMY*, Adopted July 25, 2012.

Washington Council on International Trade & the Trade Development Alliance of Greater Seattle, *An International Competitiveness Strategy for Washington State*, 2012.

Workforce Development Council of Seattle-King County and Community Attributes, *Talent Pipeline Study for Healthcare, Manufacturing, Transportation and Logistics*, August 2011.

Appendix 5: Labor Market Information for Selected ITTL Occupations (Seattle-King County)

SOC	Occupation Title	Est. employment 2011 (all industries)	Est. employment 2016 (all industries)	Average annual total openings 2011-2016	Estimated % of Occupation Employed in ITTL (Based on Q2_2012 Industry Occ Matrix)	ESTIMATED 2011 employed in ITTL	ESTIMATED 2016 employment in ITTL	ESTIMATED annual openings in ITTL
53-3032	Truck Drivers, Heavy and Tractor-Trailer	8,794	9,652	340	53%	4661	5116	180
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	15,270	17,591	990	27%	4123	4750	267
53-3033	Light Truck or Delivery Service Driver	7,322	7,809	236	22%	1611	1718	52
53-7051	Industrial Truck and Tractor Operators	3,691	4,047	175	42%	1550	1700	74
53-1031	First line supervisors of transportation & material moving machine, vehicle operators	2,356	2,544	81	57%	1343	1450	46
43-5011	Cargo and Freight Agent	1,065	1,246	63	96%	1022	1196	60
43-4051	Customer Service Representative	15,729	17,494	803	6%	944	1050	48
43-5071	Shipping, Receiving, and Traffic Clerks	6,334	6,696	236	15%	950	1004	35
43-1011	First-Line Supervisors of Office and Administrative Support Workers	9,936	10,668	407	9%	894	960	37
11-3071	Transportation, Storage and Distribution Managers	1,755	1,888	67	37%	649	699	25
53-1021	First-Line Supervisors of Helpers, Laborers and Material Movers-Hand	1,335	1,491	56	36%	481	537	20
49-9041	Industrial Machinery Mechanics	2,073	2,363	99	14%	290	331	14
		75,660	83,489	3,553		18518	20509	859

Sources: WA Employment Security Department, "Long-Term Occupational Employment Projections 2011-2019" and "Industry-Occupation Matrix for Q2_2012" (May 2013).

Appendix 6: Sample Job Descriptions from Job Openings Scan (July 2013)

Job Title	Job Tasks/Responsibilities	Requirements	Type of company
Air Export Agent	<ul style="list-style-type: none"> Handle all air export administration such as: developing air rates, air waybills, air service and work instructions Answer phone Review and answer correspondence Prepare reports Compile, store and retrieve data using computer May be responsible for special shipments involving perishables (e.g., live sea urchins) 	<ul style="list-style-type: none"> High School Diploma/GED 3-5 years of experience Word, Excel, Outlook Fast/accurate data entry skills Subject to background check and drug screen Good spelling, grammar, writing, punctuation Strong customer service skills/experience Excellent phone etiquette 	Staffing agency
Air Import Breakbulk Agent	<ul style="list-style-type: none"> Arrange the importation of freight by air freight Be the single point of coordination between customers and air carriers Prepare, issue, and submit documentation to ensure proper importation of client shipments Provide clients with advice concerning terms of delivery, payment, insurance, and all other airfreight import services Ensure invoicing of rendered services is completed accurately 	<ul style="list-style-type: none"> High School Diploma/GED 1-3 years airfreight operations experience Strong keyboarding skills Familiarity with basic accounting principles Familiarity with Transportation Security Administration (TSA) procedures Basic airfreight knowledge International Air Transport Association (IATA) Dangerous Goods certification a plus 	Freight forwarder/3rd Party Logistics
Customer Service Representative – Ocean Export	<ul style="list-style-type: none"> Point of contact for customers and documentation process unit of ocean export team ensuring operational excellence and customer satisfaction Receive and validate customer orders Issue shipment handling instructions to all relevant parties File tariff rate, as applicable Arrange for pickup transfer of cargo 	<ul style="list-style-type: none"> 2-3 years industry experience within ocean export function mandatory Strong knowledge of freight forwarding and regulatory requirements Excellent interpersonal skills; good judgment skills and ability to make decisions Familiarity with tariffs and customs Knowledge and expertise with Microsoft products 	Freight forwarder/3rd Party Logistics

Job Title	Job Tasks/Responsibilities	Requirements	Type of company
Field Service Agent	<ul style="list-style-type: none"> • Answer customer inquiries • Provide accurate job costing forecast • Assist Sales in compiling quotes by providing rates, tariffs, etc. 	<ul style="list-style-type: none"> • High School Diploma/GED • Previous experience in customer service/support or related field • Previous supervisory experience preferred • Strong communication skills (written/oral) • Proficient in Microsoft office products (Excel, Word, Outlook) 	Freight/Package Delivery
Logistics Coordinator	<ul style="list-style-type: none"> • Monitor new orders and coordinate manually entered orders with Marketing and Sales Departments • Process orders • Generate bills of lading, ship labels, pack slips, invoices • Schedule freight pickups, as necessary • Maintain customer website data • Work with Production, Purchasing, and Shipping to manage product availability and shipment • Maintain back order reports and fill orders as available 	<ul style="list-style-type: none"> • High School Diploma or GED • Minimum of 3 years of experience in an administrative or clerical position • Good verbal and written communication skills • Familiar with overall EDI (electronic data interchange) methodology and processes • Proficient in Microsoft office applications • Proven customer service ability • Pass criminal background and drug screen 	Staffing agency

Job Title	Job Tasks/Responsibilities	Requirements	Type of company
Cargo Handler	<ul style="list-style-type: none"> • Receive, store, distribute freight • Read air waybill, bills of lading or freight manifest to determine items to be moved, gathering or distributed • Convey freight from receiving areas to storage with forklift or transporter • Sort and place items on racks/bins; including putting dangerous goods in proper area • Fill requests for materials, tools and other items and distribute to other locations • Record counts of items received or distributed • Perform cargo buildup and/or breakdown, freight to/from skid, pallets or unit load devices. 	<ul style="list-style-type: none"> • High School Diploma/GED • 18+ years old • Valid driver's license and good driving record • Minimum 6 months of experience • Must pass drug screen • Lift up to 70 lbs • Must pass FBI background check and obtain US Customs and Border Protection security seal • Forklift certification preferred 	Aviation services
Dockworker	<ul style="list-style-type: none"> • Perform freight handling using motorized and manual equipment, i.e., forklift, pallet jack, hand truck • Verify documentation matches freight description (by type/weight/hazardous materials) using electronic or manual system • Secure freight inside trailers • Verify and complete required documentation and reports 	<ul style="list-style-type: none"> • High School Diploma/GED • 18+ years old • Prior experience in warehousing, freight handling and/or forklift operations preferred • Ability to count and perform basic math with and without calculator • Basic written and verbal communication skills (documentation, communication with peers, supervisors) • Ability to lift/carry hand freight of varying weights; bend, twist, push freight 	Freight/Package Delivery

Job Title	Job Tasks/Responsibilities	Requirements	Type of company
Material Handler	<ul style="list-style-type: none"> Receive, store, ship and transport warehoused goods Operate motorized equipment like forklift, clamp, cherry pickers, motorized pallet jacks, etc. Maintain inventory on office share drive Disassemble, reassemble or repair products, materials, equipment Sort, pallet, weigh, load based on customer specifications Scan documents to inbound/outbound loads in transportation management system 	<ul style="list-style-type: none"> High School Diploma/GED And/or 6 months related experience preferred 	Freight forwarder/3rd Party Logistics
Return to Vendor (RTV) clerk	<ul style="list-style-type: none"> Check damage, deleted, defective good to return to supplier inventory Contact buyers and suppliers, obtain supplier return authorization, package items, and ship them out Distribute logs, collect and key destroyed merchandise sheets Ensure that RTV inventory is accurately reflected Keep RTV inventory at a minimum by obtaining return authorization and shipping merchandise to approved destination Follows proper Receiving and general safety and security procedures. Document and track out-for-repair items 	<ul style="list-style-type: none"> High School Diploma/GED AS400 Computer skills Basic math skills Warehouse experience Licenses and Certifications (within 30 days): <ul style="list-style-type: none"> Hazardous Materials Training HAZMAT-General Awareness HAZMAT-shipping prep HAZMAT-security plan training HIPAA training 	Retailer Distribution Center

Job Title	Job Tasks/Responsibilities	Requirements	Type of company
Dock Supervisor	<ul style="list-style-type: none"> Supervise and assist freight loaders and unloaders and activities of the dock Hire/terminate employees Comply with safety rules, operations, procedure and maintenance instructions 	<ul style="list-style-type: none"> High School Diploma/GED 2 years of experience managing and supervising employees Thorough understanding of less than truckload (LTL) trucking industry including basic paperwork flow preferred Prior management, dispatch, and dock experience required, preferably in LTL trucking industry Computer literate AS/400 and Microsoft office experience preferred Pass pre-employment drug screen, criminal history background check WA driver's license 	Trucking/Freight Delivery
Dry Van Dedicated OTR Driver	<ul style="list-style-type: none"> Drive tractor-trailer for the over-the-road delivery of freight to two or more locations Be on the road from 3-5 days at a time Assigned to run freight for one customer 	<ul style="list-style-type: none"> Must pass a Dept of Transportation (DOT) physical Must pass a company-provided road test Have valid Class A Commercial Driver's License with Haz-Mat endorsement 21 years or older Ability to read, write and speak English Meet DOT mental and physical requirements Must receive satisfactory results from a background check and pass drug screening 	Trucking/Freight Delivery

Appendix 7: Outline for Airport University “Introduction to International Trade, Transportation and Logistics” Course

World Trading Systems

- Why Trade?
- Trading and Transportation Policies: Who is involved, and how do they promote trade?
- Global Trade Patterns: What is going where and why?

Freight Transportation

- How to speak “Freight”
- Modes and strategies: How do we ship and receive goods across town, and across the globe?
- Infrastructure: Why do we need seaports, airports, roads, bridges, and tunnels?
- Cargo and Commodities- What are we shipping and how is it handled?

Jobs and Careers in Freight Transportation

- Equipment Operation- Road, Rail, Maritime, Intermodal
- Warehousing, Freight Consolidation, Order Picking and Fulfillment
- Freight Forwarding, Booking, Sales of Transportation/Logistics Services
- Specialty Services- Chartering, Customs Brokering, Insurance, Compliance Documentation, Safety and Security, Fuel and Hazmat Handling, Hazmat Response
- Supply Chain Management overview

Air Cargo Specifics

- Overview of Air Cargo Industry
- Air Parcel Services, Dedicated Cargo Airlines, Charter Market, Belly Cargo
- Contrast/Comparison with Ocean/Land modes
- Safety and Security Issues in Air Cargo Handling
- Hazmat
- Stowage Procedures
- Anti-Terrorism Protocols

Pathways: Connections to Community College Programs and Beyond

- Inventory of relevant certificate and degree tracks available at the time of course launch