



# Anchorage Pacific Air-to-Sea Service Initiative

Rev-1







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# **1** Executive Summary

## 1.1 Today's Situation

West coast port congestion is having a knock-on effect on the transportation market. Americans are the leading factor in the increased global demand for goods from Asia. The demand for ocean freight has increased at a faster rate than ocean transport capacity. The result is that ocean freight delivery times have increased from 30 days to 75+ days, the cost of containers have skyrocketed, and the demand for air cargo is accelerating. Peak season began in August which means the situation is unlikely to change until after the first quarter of 2022. The rising cost of ocean transport means that air cargo is becoming a more affordable transportation option.

## 1.2 What is the Anchorage Pacific Air-to-Sea Initiative?

Ted Stevens Anchorage International Airport (TSAIA and IATA Code ANC) and the Anchorage Economic Development Corporation requested Naniq Global Logistics quantify the opportunity for new multimodal transportation lanes from Asia to the United States that passes through Anchorage. The Anchorage Pacific Air-to-Sea Service (ANC PASS) consists of an air charter flight from Asia to Anchorage, transloading in Anchorage to ocean vessel (or truck for ANC PASS+), ocean transport to Seattle/Tacoma, and transloading in Seattle/Tacoma to truck for delivery to the final destination's door.

## **1.3 The Analysis Process**

A 767-300 aircraft can transport the equivalent of five 40' containers (FEUs) and a 747-400 can transport up to eleven FEUs. The three ocean carriers with scheduled service from Seattle/Tacoma to Anchorage are Tote, Matson, and AML. The weekly available backhaul capacity for these three carriers is 1,749 FEUs. This means that backhaul capacity could handle three-hundred-fifty fully loaded 767-300's or one-hundred-fifty-one fully loaded 747-400. Eleven points of origins in Asia (Bangkok, Zhengzhou, Chengdu, Hanoi, Hong Kong, Manila, Tokyo, Ho Chi Minh, Shanghai, Taipei, and Seoul), four west coast ports (Seattle/Tacoma, Portland, Long Beach, and Oakland), and seven US destinations (Reno, Chicago, Dallas, Atlanta, New York Orlando, and San Francisco) were selected for analysis. Freight classes (92.5, 125, 175, and 250) were selected based on the manufacturers' products in each point of origin. A random assignment of cargo commodity for each point of origin and a variety of quantities were assigned and then current market rate transportation quotes were obtained for all transportation lanes and segments for each transportation mode. The quotes were provided in the currency of the point of origin so exchange rates on May 21, 2021, were used to convert the price to US dollars.

## 1.4 The Results

ANC PASS can inject freight into west coast distribution centers in as little as 6-7 days if flights arrival times are in Anchorage align with one of the existing ocean carriers' schedules or a south bound truck. In the worst-case scenario for the flight arrival date being the least desirable and utilizing the existing longest duration for all the ocean carriers, injection into west coast distribution centers could take as long as 15-19 days. Ocean transport from Alaska is not subject to west coast port constraints because carriers have exclusive use of their terminals and operate like clockwork. ANC PASS provides a cost







savings opportunity when compared to air cargo transport. Air cargo is airport to airport while ANC PASS is airport to door pricing. The table below shows the average cost per kilogram from each point of origin to all destinations.

		Ocean + Truck		Air Cargo		ANC PASS		ANC PASS+	
Point of Origin	ΙΑΤΑ	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days
Bangkok, Suvarnabhumi International	ВКК	\$1.28	29-47	\$15.14	1-3	\$10.58	7-19	\$11.66	6-15
Zhengzhou - Xinzheng International Airport	CGO	\$1.53	28-42	\$10.68	1-3	\$9.50	7-19	\$10.58	6-15
Chengdu - Shuangliu	CTU	\$1.53	28-42	\$11.10	1-3	\$7.07	7-19	\$8.15	6-15
Hanoi - Noi Bai International Airport	HAN	\$1.23	25-43	\$13.41	1-3	\$11.10	7-19	\$12.18	6-15
Hong Kong - International Airport (HKIA)	HKG	\$1.16	27-41	\$10.24	1-3	\$9.58	7-19	\$10.66	6-15
Manila - Ninoy Aquino International	MNL	\$1.28	19-52	\$8.66	1-3	\$9.63	7-19	\$10.71	6-15
Tokyo - Narita	NRT	\$1.19	18-36	\$9.10	1-3	\$7.01	7-19	\$8.09	6-15
Saigon (Ho Chi Minh City) - Tan Son Nhat International	SGN	\$1.23	27-45	\$13.41	1-3	\$11.22	7-19	\$12.30	6-15
Shanghai - Pudong International Airport	PVG	\$1.22	25-39	\$10.30	1-3	\$8.88	7-19	\$9.96	6-15
Taipei - Chiang Kai Shek	TPE	\$1.22	26-38	\$15.75	1-3	\$6.58	7-19	\$7.66	6-15
Seoul - Incheon International Airport	ICN	\$1.19	19-38	\$10.25	1-3	\$5.05	7-19	\$6.13	6-15

#### Table I Summary Average Cost and Transit Durations for Each Point of Origin

## 1.5 Market Testing

Beneficial cargo owners (BCOs) and freight forwarders stated that if available today, they would use ANC PASS. The challenge is available air lift from Asia to Anchorage. BCOs and freight forwarders stated they even if the west coast ports return to normal operations, ANC PASS would be a viable option for time-sensitive cargo.

## 1.6 Other Possible Advantages for ANC PASS

The Ted Stevens Anchorage International Airport has special cargo transfer rights that makes the Jones Act less of an issue for imports. Customs Border Patrol has available capacity, so cargo can quickly clear customs in Anchorage. Airfreight is becoming more and more affordable – particularly considering the real impacts of lost sales and out-of-stock inventory.

## 1.7 Who Benefits from ANC PASS?

Cargo owners who need a predictable, reliable moderately priced and pace mode of transportation, air carriers who want better utilization of aircraft and personnel, freight forwarders who need a reliable transportation solution for their clients, the Ted Stevens Anchorage International Airport for increased utilization, and Alaskans who already pay for the fronthaul and backhaul transportation will benefit from ANC PASS.







# 2 Scope of Work

Ted Stevens Anchorage International Airport (TSAIA) and the Anchorage Economic Development Corporation (AEDC) entered into an agreement for professional services to research and quantify the potential for a medium-speed, medium-cost transportation options utilizing TSAIA and Alaska's existing backhaul transportation space for delivery of freight to the Lower 48 states. AEDC selected Naniq Global Logistics, LLC (NGL) to perform this research and analysis. NGL's deliverables are shown below:

- Quantify the backhaul capacity
- Identify key backhaul connections
- Identify pricing and transit durations
- Identify the benefits and potential challenges for this transportation option

This document summarizes the research results.

## **3** Background Information

The Ted Stevens Anchorage International Airport (TSAIA) is one of the few airports with special cargo transfer rights granted by 49 U.S.C. § 41703. This privilege allows foreign air carriers to land in Anchorage and continue its flight to another US destination or transfer its cargo to a foreign aircraft without classifying the international journey as broken. In 1996, the US DOT Docket OST 96-1600 expanded the air cargo transfer rights to interline to/from non-US carriers, interline to/from US carriers, transfer on-line between flights, change of gauge transportation service, and commingling of US and no-US traffic on the same flight. Although foreign air carriers need to apply for the exemption authority to service additional US points on an extra-bilateral basis, this privilege essentially bypasses the Jones Act.

Today's ocean transportation market from Asia is experiencing huge delays at the west coast ports. The primary factor behind this congestion is the 10% growth in US imports as Americans spend the accumulated savings resulting from Covid-19 lock downs. The demand for ocean freight has increased at a much faster rate than ocean transport capacity. As the freight business peak season is underway in August, port congestion is not expected to be resolved until the second quarter of 2022. As of September 2021, ocean freight transit times have increased from 30 days to 75+ days. As a result of these longer transit times, container availability has been reduced to about half and container costs have skyrocketed.

# 4 Alaska's Backhaul Capacity

Understanding the quantity and frequency of backhaul from Alaska to the US west coast is foundational to defining a cost-effective transportation lane through Anchorage, Alaska. Most goods shipped to Alaska arrive in Anchorage on ships or barges originating in the Seattle/Tacoma area. As a result of the heavy north bound transportation demand to Anchorage, there are three ocean carriers that provide regularly scheduled service to Anchorage. These ocean carriers are Alaska Marine Lines (AML), Matson, and Totem Ocean Express (TOTE). AML has a weekly barge service. Matson provides a bi-weekly container ship service. TOTE provides a bi-weekly roll-on/roll-off (Ro/Ro) ship service.

Given the combination of consistent backhaul space availability and the reliability of the scheduled service, ocean transport is the most viable method for providing a less expensive transportation service for goods from Asia to the contiguous Unites States. Table 1 below summarizes the price quoted in April







2021 for various sized containers for transportation from Anchorage to Seattle/Tacoma for each marine carrier providing a scheduled service:

The transit time from Anchorage to Seattle/Tacoma on the schedule marine carriers varies because some carriers take different routes as summarized below:

#### AML

- Departs Seattle on Tuesday, arrives Whittier 8 days later (Wednesday), Anchorage and Cordova 9 days later (Thursday), Valdez 10 days later (Friday).
- Departs Seattle on Friday and arrives Anchorage 9 days later (Sunday).

#### Matson:

- Departs Tacoma Friday, arrives Anchorage Tuesday, arrives Kodiak Wednesday, arrives Dutch Harbor Friday, and arrives in Tacoma Wednesday
- Departs Tacoma on Wednesday, arrives Anchorage Sunday, arrives Kodiak Monday, Arrives Tacoma Friday.

#### TOTE:

- Gate Cutoff Anchorage Sunday @ 5pm Arrives Tacoma Wednesday at 6pm
- Gate Cutoff Tacoma Wednesday @ 11pm Arrives Anchorage Sunday at 7am
- Gate Cutoff Anchorage Tuesday @ 5pm Arrives Tacoma Friday at 6pm
- Gate Cutoff Tacoma Friday @ 11pm Arrives Anchorage Tuesday at 7am

The next backhaul question considered was the amount of air cargo capacity that could be served. capacity. The most common air cargo planes utilized are 767-300's and 747-400's. A 767-300 can easily transport the same amount of cargo contained in five forty-foot containers, and a 747-400 can easily transport the same amount of cargo contained in eleven forty-foot containers.

The table below summarizes the backhaul capacity and transit times for the ocean carrier routinely cycling between Settle/Tacoma and Anchorage:

Ocean Carrier	Weekly Vessel FEU Capacity	Trip Frequency per Week	Transit Duration	Number of 767-300's per	Number of 747-400's per
	,			Week	Week
AML	400	1	9+ days*	80	34
Matson	749	2	3-7 days*	150	65
TOTE	600	2	3 days	120	52
Totals	1749	5		350	151

Table II Backhaul Capacity from Anchorage to Seattle/Tacoma by Ocean Carrier

\*Routes vary on certain days creating longer transit times

# 5 ANC PASS

ANC PASS is a multi-modal transportation opportunity for freight moving from Asia to the US. ANC PASS utilizes air charter service from Asia to Anchorage, then transloads the freight from the air charter to trucks for transport to the Port of Anchorage. At the Port of Anchorage, either the freight or trailers are







loaded onto a vessel and delivered to Seattle/Tacoma. In Seattle/Tacoma, the freight is transloaded onto trucks and transported to the destination. ANC PASS+ is like ANC PASS; however, it uses trucks for the transportation between Anchorage and Seattle and decreases the overall transit time by 1-2 days. The diagram below shows the rate and transit time components that comprise ANC PASS:

#### Figure I Components of ANC PASS



For ANC PASS to be viable as a commercial offering, the transportation service from Asia to the west coast must be notably faster than long haul ocean transport and much less expensive than air cargo.







## **6** Routes

To quantify the economic viability of ANC PASS, seven points of origin in Asia and eleven United States destinations were selected and evaluated for cost and transit durations.

Table III Routes Evaluated

Points of Origin	West Coast Ports	<b>Final Destinations</b>
Bangkok, Suvarnabhumi International (BKK)	Long Beach, CA	Atlanta, GA (ATL)
Chengdu – Shuangliu (CTU)	Oakland, CA	Chicago, IL (ORD)
Hanoi - Noi Bai International Airport (HAN)	Portland, OR	Dallas, TX (DFW)
Ho Chi Minh City - Tan Son Nhat International (SGN)	Seattle/Tacoma, WA	New York, NY (JFK)
Hong Kong - International Airport (HKG)		Orlando, Fl (MCO)
Manila - Ninoy Aquino International (MNL)		Reno, NV (RNO)
Seoul - Incheon International Airport (ICN)		San Francisco, CA (SFO)
Shanghai - Pudong International Airport (PVG)		
Taipei - Chiang Kai Shek (TPE)		
Tokyo – Narita (NRT)		

Zhengzhou - Xinzheng International Airport (CGO)

# 7 Market Quotes

Market quotes were obtained in May 2021 for:

- international ocean transport from the points of origin to the west coast ports
- truck transport from the west coast ports to the destinations
- international air cargo from the points of origins to the destinations
- international air charter from the point of origins to TSAIA in Anchorage, Alaska
- transload and drayage from TSAIA to the Port of Anchorage
- domestic ocean transport from Port of Anchorage to the carrier's dock in Seattle/Tacoma, Washington

The diagram below provides an overview of the process used to obtain market quotes for Market quotes with transit durations were requested for each transportation mode from vendors for every point of origin to every destination using a randomly assigned cargo commodity, quantity, and "ship ready" date.







Figure II Market Quote Process



# 8 Freight Class

Freight class is a standardized classification system for commodities transported via less-than-atruckload freight shipping. Freight class groups products into categories that considers common attributes such as density, stow-ability, handling, liability, and value characteristics. It is used by carriers for pricing freight rates and formulating the cost to ship your freight. The following freight classes were randomly assigned to transportation lanes and used in requests for transportation quotes:

Freight Class	Example Commodities	3 Density, lbs./ft
92.5	Computers, monitors, refrigerators, etc.	10.5-12
125	Small household appliances, etc.	7-8
175	Clothing, couches, stuffed furniture, etc.	5-6
250	Flat screen TVs, bamboo furniture, mattresses, box springs, etc.	3-4

Table IV Freight Classes Used in Market Quote Requests

## 8.1 International Ocean Market Quote Basis

For the ocean transport, the following information was used as the basis for the requested quotes:







#### Table V International Ocean Market Quote Information by Point of Origin

Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
92.5		Seattle, WA	Refrigerators	48	40	67	893.34	19	16,973.46
125	Bangkok,	Portland, OR	Small Household Appliances	48	40	68	528.89	17	8,991.13
175	Thailand	Long Beach, CA	Clothing	48	40	69	383.34	20	7,666.80
250		Oakland, CA	Flat Screen TVs	48	40	60	266.67	17	4,533.39
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs,
92.5		Seattle, WA	Refrigerators	48	40	71	946.67	14	13,253.38
125	Chengdu,	Portland, OR	Small Household Appliances	48	40	75	666.67	12	8,000.04
250	China	Long Beach, CA	Flat Screen TVs	48	40	62	275.56	12	3,306.72
175		Oakland, CA	Clothing	48	40	71	473.34	4	1,893.36
Freight	Point of			Length,	Width,	Height,	ltem Weight,	QTY of	Total
Class 175	Origins	Destination Seattle, WA	Cargo Commodity Couches	inches 48	inches 40	inches 61	lbs. 406.67	Units 15	Weight, lbs. 6,100.05
250	Hanoi,	Portland, OR	Flat Screen TVs	48	40	73	324.45	18	5,840.10
92.5	Vietnam	Long Beach, CA	Refrigerators	48	40	77	941.12	18	16,940.16
125		Oakland, CA	Small Household Appliances	48	40	63	490.00	4	1,960.00
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
175		Seattle, WA	Couches	48	40	62	413.34	5	2,066.70
125	Ho Chi Minh,	Portland, OR	Small Household Appliances	48	40	64	497.78	8	3,982.24
92.5	Vietnam	Long Beach, CA	Refrigerators	48	40	72	960.00	10	9,600.00
250		Oakland, CA	Flat Screen TVs	48	40	64	284.45	4	1,137.80
Freight	Point of Origins	Destination	Cargo Commodity	Length	, Width, inches	Height, inches	ltem Weight, Ibs	QTY of Units	Total Weight Ibs
175	-ongino	Seattle, WA	Clothing	48	40	65	361.12	10	3,611.20
125	Hong	Portland, OR	Small Household Appliances	48	40	61	474.45	13	6,167.85
250	Kong	Long Beach, CA	Bamboo Furniture	48	40	72	320.00	14	4,480.00
92.5		Oakland, CA	Computers	48	40	69	843.34	15	12,650.10







Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
92.5		Seattle, WA	Computers	48	40	61	745.56	5	3,727.80
125	Manila,	Portland, OR	Small Household Appliances	48	40	72	560.00	12	6,720.00
175	Philippines	Long Beach. CA	Couches	48	40	66	366.67	15	5,500.05
250		Oakland, CA	Flat Screen TVs	48	40	74	328.89	10	3,288.90
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight. lbs.
250		Seattle, WA	Bamboo Furniture	48	40	67	223.34	12	2,680.08
125	Seoul, South	Portland, OR	Small Household Appliances	48	40	78	606.67	10	6,066.70
92.5	Korea	Long Beach, CA	Refrigerators	48	40	77	941.12	5	4,705.60
175		Oakland, CA	Clothing	48	40	74	411.12	19	7,811.28
					1		Item		
Freight	Point of Origins	Doctination	Cargo Commodity	Length,	Width,	Height,	Weight,	QTY of	Total Woight Ibs
92.5	Ongins	Seattle, WA	Computers	48	40	66	880.00	10	8,800.00
250	Shanghai,	Portland, OR	Mattresses & Box Springs	48	40	69	306.67	17	5,213.39
125	China	Long Beach, CA	Small Household Appliances	48	40	74	657.78	10	6,577.80
175		Oakland, CA	Clothing	48	40	61	406.67	18	7,320.06
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
92.5		Seattle, WA	Computers	48	40	65	866.67	13	11,266.71
175	Taipei,	Portland, OR	Couches	48	40	68	453.34	19	8,613.46
125	Taiwan	Long Beach, CA	Small Household Appliances	48	40	63	490.00	12	5,880.00
250		Oakland, CA	Flat Screen TVs	48	40	64	213.34	18	3,840.12
Freight	Point of	Destination	Cargo Commodity	Length,	Width,	Height,	ltem Weight,	QTY of	Total
125	Origins	Seattle	Small Household	48 48	40	79	702.23	10	7 022 30
02 5	-	WA Portland	Appliances	10	40	62	757 70	1/	10 609 02
32.3	Tokyo, Japan	OR		40	40	62	/3/./8	14	10,008.92
1/5		Long Beach, CA	Ciothing	48	40	63	350.00	16	5,600.00
250		Oakland, CA	Flat Screen TVs	48	40	63	210.00	19	3,990.00







Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
125		Seattle, WA	Small Household Appliances	48	40	78	693.34	19	13,173.46
92.5	Zhengzhou,	Portland, OR	Refrigerators	48	40	79	965.56	20	19,311.20
175	China	Long Beach, CA	Clothing	48	40	61	406.67	13	5,286.71
250		Oakland, CA	Bamboo Furniture	48	40	76	253.34	19	4,813.46

## 8.2 Truck Market Quote Basis

Over-the-road trucking rates were obtained using the following information as the basis for requesting quotes:

Table VI Over-the-Road (OTR) Truck Market Quote Information

Freight	Point of Origins	Destination	Cargo Commodity	Length,	Width,	Height,	ltem Weight, Ibs	QTY of	Total Weight, Ibs
92.5	Oligina	Destination	cargo commounty	inches	menes	inches	103.	Onits	105.
0210		Reno, NV	Refrigerators	48	40	62	757.78	16	12,124.48
250			-						
		Chicago, IL	Mattresses & Box Springs	48	40	69	306.67	18	5,520.06
92.5	Long								
	Beach	Dallas, TX	Refrigerators	48	40	63	770.00	19	14,630.00
125	CA		Small Household						
	0,1	Atlanta, GA	Appliances	48	40	79	614.45	11	6,758.95
175		New York,							
		NY	Clothing	48	40	65	433.34	5	2,166.70
92.5		Jacksonville,							
		FL	Refrigerators	48	40	68	906.67	8	7,253.36
Freight	Point of			Length	Width	Height	item Weight	OTV of	10tai Weight
Class	Origins	Destination	Cargo Commodity	inches	inches	inches	lbs.	Units	lbs.
175									
		Reno, NV	Clothing	48	40	80	533.34	19	10,133.46
92.5									
		Chicago, IL	Monitors	48	40	64	853 34	13	11.093.42
125		0-,		10	40	04	055.54	10	,
			Small Household	10	40	04	055.54	10	,
	Oakland,	Dallas, TX	Small Household Appliances	48	40	73	567.78	19	10,787.82
92.5	Oakland, CA	Dallas, TX	Small Household Appliances	48	40	73	567.78	19	10,787.82
92.5	Oakland, CA	Dallas, TX Atlanta, GA	Small Household Appliances Monitors	48 48	40 40 40	73 65	567.78 866.67	19 18	10,787.82 15,600.06
92.5 175	Oakland, CA	Dallas, TX Atlanta, GA New York,	Small Household Appliances Monitors	48 48	40 40	73 65	567.78 866.67	19 18	10,787.82 15,600.06
92.5 175	Oakland, CA	Dallas, TX Atlanta, GA New York, NY	Small Household Appliances Monitors Couches	48 48 48	40 40 40	73 65 63	567.78 866.67 420.00	19 18 16	10,787.82 15,600.06 6,720.00
92.5 175 250	Oakland, CA	Dallas, TX Atlanta, GA New York, NY Jacksonville,	Small Household Appliances Monitors Couches Mattresses & Box	48 48 48	40 40 40 40	73       65       63	567.78 866.67 420.00	19 18 16	10,787.82 15,600.06 6,720.00







Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
92.5									
		Reno, NV	Monitors	48	40	74	904.45	14	12,662.30
125			Small Household						
		Chicago, IL	Appliances	48	40	63	560.00	11	6,160.00
125			Small Household						
	Portland,	Dallas, TX	Appliances	48	40	72	560.00	12	6,720.00
175	OR								
		Atlanta, GA	Clothing	48	40	61	406.67	18	7,320.06
92.5		New York,							
		NY	Monitors	48	40	70	933.34	8	7,466.72
250		Jacksonville,							
		FL	Flat Screen TVs	48	40	68	226.67	5	1,133.35
							Item		Total
Freight	Point of			Length,	Width,	Height,	Weight,	QTY of	Weight,
Class	Origins	Destination	Cargo Commodity	inches	inches	inches	lbs.	Units	lbs.
92.5		5		10	40		052.24	_	5 070 00
	-	Reno, NV	Computers	48	40	64	853.34	/	5,973.38
125			Small Household						
475	4	Chicago, IL	Appliances	48	40	76	675.56	1/	11,484.52
175									
250	4	Dallas, IX	Clothing	48	40	80	533.34	10	5,333.40
250				10	40	62	200.00		4 4 3 9 9 9
	-	Atlanta, GA	Bamboo Furniture	48	40	63	280.00	4	1,120.00
92.5	Seattle,	New York,	Committee	10	40	70	002.22	20	17.044.00
405	WA		Computers	48	40	/3	892.23	20	17,844.60
125		Jacksonville,	Small Household	10	40	70	C4 4 45		0.000.00
475	-	FL .	Appliances	48	40	79	614.45	14	8,602.30
175		Portland,							6 9 6 6 <b>7</b> 6
250	_	OR	Clothing	48	40	/8	433.34	14	6,066.76
250		Los Angeles,		10	40	70	222.24	20	1.000.00
00 F	-	CA	Flat Screen TVS	48	40	70	233.34	20	4,666.80
92.5		San							
		Francisco,	Defrigerators	40	40	70	022.24	-	6 522 28
1	1	LA	Reingerators	48	40	/0	933.34	/	0,533.38







## 8.3 International Air Cargo Market Quote Basis

For international Air Cargo, the following information was used to request quotes from air cargo carriers:

Table VII	International	Air Cargo	Market	Quote	Information

Freight	Point of			Length,	Width,	Heigh t, inche	ltem Weight,	QTY of	Total
Class	Origins	Destination	Cargo Commodity	inches	inches	S	lbs.	Units	Weight, lbs.
125		Seattle, WA	Small Household Appliances	48	40	77	684.45	7	4,791.15
125		Portland, OR	Small Household Appliances	48	40	68	528.89	9	4,760.01
175	•	Los Angeles, CA	Couches	48	40	62	344.45	20	6,889.00
92.5	•	San Francisco. CA	Refrigerators	48	40	69	920.00	15	13,800.00
250		Reno. NV	Flat Screen TVs	48	40	73	243.34	10	2.433.40
92.5	Bangkok,	Chicago, IL	Monitors	48	40	79		16	16,853.44
	Thanana						1,053.3 4		
250		Dallas, TX	Mattresses & Box Springs	48	40	70	233.34	16	3,733.44
92.5		Atlanta, GA	Monitors	48	40	68	831.12	12	9,973.44
92.5		New York, NY	Monitors	48	40	72	880.00	13	11,440.00
92.5		Jacksonville, FL	Refrigerators	48	40	72	960.00	20	19,200.00
92.5		Anchorage, AK	Monitors	48	40	80	977.78	18	17,600.04
Freight	Point of	Destination	Cargo Commodity	Length,	Width,	Height,	ltem Weight, Ibs	QTY of	Total Weight, Ibs
Freight Class 92 5	Point of Origins	Destination	Cargo Commodity Monitors	Length, inches	Width, inches	Height, inches 77	Item Weight, Ibs. 1 026 67	QTY of Units 19	Total Weight, Ibs.
Freight Class 92.5	Point of Origins	Destination Seattle, WA	Cargo Commodity Monitors	Length, inches 48	Width, inches 40	Height, inches 77	Item Weight, Ibs. 1,026.67	QTY of Units 19	Total Weight, Ibs. 19,506.73
Freight Class 92.5 125	Point of Origins	Destination Seattle, WA Portland, OR	Cargo Commodity Monitors Small Household Appliances	Length, inches 48 48	Width, inches 40 40	Height, inches 77 65	Item Weight, Ibs. 1,026.67 577.78	QTY of Units 19 7	Total Weight, Ibs. 19,506.73 4,044.46
Freight Class 92.5 125 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA	Cargo Commodity Monitors Small Household Appliances Refrigerators	Length, inches 48 48 48	Width, inches 40 40 40	Height, inches 77 65 79	Item Weight, Ibs. 1,026.67 577.78 1,053.34	QTY of Units 19 7 13	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42
Freight Class           92.5           125           92.5           175	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing	Length, inches 48 48 48 48 48	Width, inches 40 40 40 40 40	Height, inches 77 65 79 73	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67	QTY of Units 19 7 13 9	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42 4,380.03
Freight Class 92.5 125 92.5 175 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors	Length, inches 48 48 48 48 48 48 48	Width, inches 40 40 40 40 40	Height, inches 77 65 79 73 73	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45	QTY of Units 19 7 13 13 9 9	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42 4,380.03 4,522.25
Freight Class           92.5           125           92.5           175           92.5           250	Point of Origins Chengdu, China	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors Mattresses & Box Springs	Length, inches 48 48 48 48 48 48 48 48	Width, inches 40 40 40 40 40 40 40	Height, inches 77 65 79 73 73 74 69	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45 230.00	QTY of Units 19 7 13 13 9 9 5 16	Total           Weight,           19,506.73           4,044.46           13,693.42           4,380.03           4,522.25           3,680.00
Freight Class 92.5 125 92.5 175 92.5 250 250	Point of Origins Chengdu, China	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors Mattresses & Box Springs Flat Screen TVs	Length, inches 48 48 48 48 48 48 48 48 48 48	Width, inches 40 40 40 40 40 40 40 40	Height, inches 77 65 79 73 73 74 69 80	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45 230.00 266.67	QTY of Units 19 7 13 9 9 5 16 9	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42 4,380.03 4,522.25 3,680.00 2,400.03
Freight Class           92.5           125           92.5           175           92.5           250           92.5	Point of Origins Chengdu, China	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors Mattresses & Box Springs Flat Screen TVs Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48	Width, inches 40 40 40 40 40 40 40 40 40 40 40	Height, inches 77 65 79 73 73 74 69 80 80	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45 230.00 266.67 1,066.67	QTY of Units 19 7 13 9 9 5 16 9 9 4	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42 4,380.03 4,522.25 3,680.00 2,400.03 4,266.68
Freight Class           92.5           125           92.5           175           92.5           250           92.5           125	Point of Origins Chengdu, China	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors Mattresses & Box Springs Flat Screen TVs Refrigerators Small Household Appliances	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,           inches           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40	Height, inches           77           65           79           73           74           69           80           80           74	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45 230.00 266.67 1,066.67 575.56	QTY of Units 19 7 13 7 13 9 9 5 16 9 9 4 4	Total           Weight,           lbs.           19,506.73           4,044.46           13,693.42           4,380.03           4,522.25           3,680.00           2,400.03           4,266.68           2,302.24
Freight Class           92.5           125           92.5           175           92.5           250           92.5           125           92.5           92.5           92.5           92.5           92.5           92.5           92.5           92.5           92.5	Point of Origins Chengdu, China	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville, FL	Cargo Commodity Monitors Small Household Appliances Refrigerators Clothing Monitors Mattresses & Box Springs Flat Screen TVs Refrigerators Small Household Appliances Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height, inches           77           65           79           73           74           69           80           80           74           69	Item Weight, Ibs. 1,026.67 577.78 1,053.34 486.67 904.45 230.00 266.67 1,066.67 575.56 920.00	QTY of Units 19 7 13 13 9 9 16 9 4 4 4 4 15	Total Weight, Ibs. 19,506.73 4,044.46 13,693.42 4,380.03 4,522.25 3,680.00 2,400.03 4,266.68 2,302.24 13,800.00







							Item		Total
Freight	Point of		Cargo	Length,	Width,	Height,	Weight,	QTY of	Weight,
Class	Origins	Destination	Commodity	inches	inches	inches	lbs.	Units	lbs.
125		Seattle, WA	Small	48	40	77	684.45	18	
			Household						12,320.10
175		Dortland	Appliances	40	40	62	412.24	7	2 902 29
1/5		OR	Couches	40	40	02	415.54	/	2,095.50
92.5		Los Angeles	Computers	48	40	60	733 34	6	4 400 04
52.5		CA	computers	40	40	00	/ 55.54	Ū	4,400.04
125		San	Small	48	40	71	631.12	20	
		Francisco,	Household						12,622.40
	Lie Chi	CA	Appliances						
92.5	Minh	Reno, NV	Refrigerators	48	40	66	806.67	14	
	Vietnam								11,293.38
175	-	Chicago, IL	Couches	48	40	75	500.00	17	8,500.00
92.5		Dallas, TX	Monitors	48	40	68	831.12	7	5,817.84
250		Atlanta, GA	Mattresses	48	40	72	320.00	17	5,440.00
			& BOX						
250		New York	Bamboo	18	40	75	250.00	18	4 500 00
250		NY	Furniture	40	40	75	230.00	10	4,500.00
92.5	_	lacksonville.	Monitors	48	40	62	826.67	13	
52.5		FL	Wiefficers	10	10	02	020.07	10	10,746.71
92.5		Anchorage,	Computers	48	40	68	831.12	9	7,480.08
		AK							
							Item		Total
Freight	Point of	Destination	Cargo	Length,	Width,	Height,	Weight,	QTY of	Weight,
125	Hanoi		Small	/18	40	78	606.67	1/	8 /03 38
125	Vietnam	Scattle, WA	Household	40	40	/0	000.07	14	0,455.50
			Appliances						
92.5		Portland,	Refrigerators	48	40	76		12	
		OR	_				1,013.34		12,160.08
125		Los Angeles,	Small	48	40	75	583.34	16	9,333.44
		CA	Household						
			Appliances						
92.5		San	Computers	48	40	73	892.23	9	8,030.07
		Francisco,							
92.5		CA Reno NV	Computers	/18	40	69	8/3 3/	Q	6 746 72
250		Chicago II	Bamboo	48	40	80	355 56	19	6 755 64
250		chicago, in	Furniture	40	40	00	333.30	15	0,755.04
250		Dallas, TX	Mattresses	48	40	73	243.34	10	2,433.40
			& Box						
			Springs						
92.5		Atlanta, GA	Refrigerators	48	40	64	853.34	20	
									17,066.80
125		New York,	Small	48	40	80	622.23	7	4,355.61
		NY	Household						
02.5		lackconville	Appliances	10	40	70		11	
92.5		Jacksonville,	computers	40	40	/8	1 0/0 00	11	11 440 00
92.5		Anchorage	Monitors	48	40	76	1,040.00	9	9,120.06
		AK					1.013.34	Ĵ	5,220.00





Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
175		Seattle, WA	Clothing	48	40	72	480.00	9	4,320.00
92.5		Portland, OR	Monitors	48	40	61	745.56	7	5,218.92
250		Los Angeles, CA	Bamboo Furniture	48	40	69	230.00	4	920.00
250		San Francisco, CA	Flat Screen TVs	48	40	77	342.23	5	1,711.15
92.5		Reno, NV	Computers	48	40	78	1,040.00	5	5,200.00
125	Hong Kong	Chicago, IL	Small Household Appliances	48	40	75	583.34	20	11,666.80
92.5		Dallas, TX	Computers	48	40	79	1,053.34	16	16,853.44
125		Atlanta, GA	Small Household Appliances	48	40	72	640.00	12	7,680.00
175		New York, NY	Clothing	48	40	62	413.34	14	5,786.76
125		Jacksonville, FL	Small Household Appliances	48	40	62	482.23	20	9,644.60
92.5		Anchorage, AK	Computers	48	40	68	906.67	6	5,440.02
- • • •							Item		Total
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	Weight, Ibs.	QTY of Units	Weight, Ibs.
Freight Class 125	Point of Origins	Destination Seattle, WA	Cargo Commodity Small Household Appliances	Length, inches 48	Width, inches 40	Height, inches 77	Weight, Ibs. 598.89	QTY of Units 10	Weight, Ibs. 5,988.90
Class 125 125	Point of Origins	Destination Seattle, WA Portland, OR	Cargo Commodity Small Household Appliances Small Household Appliances	Length, inches 48 48 48	Width, inches 40 40	Height, inches 77 69	Weight, Ibs. 598.89 536.67	QTY of Units 10 17	Weight, Ibs. 5,988.90 9,123.39
Freight Class 125 125 125 175	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA	Cargo Commodity Small Household Appliances Small Household Appliances Clothing	Length, inches 48 48 48 48	Width, inches       40       40       40       40       40	Height, inches 77 69 73	Weight, Ibs. 598.89 536.67 486.67	QTY of Units 10 17 11	Weight, Ibs. 5,988.90 9,123.39 5,353.37
Freight Class 125 125 125 175 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators	Length, inches 48 48 48 48 48	Width, inches           40           40           40           40           40           40	Height, inches77697375	Weight, Ibs. 598.89 536.67 486.67 1,000.00	QTY of Units 10 17 11 9	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00
Freight Class 125 125 125 175 92.5 250	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs	Length, inches 48 48 48 48 48 48	Width, inches           40           40           40           40           40           40           40           40           40           40	Height,         inches         77         69         73         75         62	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56	QTY of Units 10 17 11 9 8	Weight, Ibs.           5,988.90           9,123.39           5,353.37           9,000.00           2,204.48
Freight Class 125 125 125 175 92.5 250 92.5	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs Refrigerators	Length, inches 48 48 48 48 48 48 48 48	Width, inches           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40           40	Height,         inches         77         69         73         75         62         72	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56 960.00	QTY of Units 10 17 11 9 8 8 16	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00 2,204.48 15,360.00
Freight Class 125 125 125 175 92.5 250 92.5 250	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs Refrigerators Flat Screen TVs	Length, inches 48 48 48 48 48 48 48 48 48	Width, inches       40       40       40       40       40       40       40       40       40       40       40       40       40	Height, inches         77         69         73         75         62         72         67	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56 960.00 223.34	QTY of Units 10 17 11 9 8 8 16 9	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00 2,204.48 15,360.00 2,010.06
Freight Class 125 125 125 175 92.5 250 92.5 250 92.5	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs Refrigerators Flat Screen TVs Computers	Length, inches 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         69         73         75         62         72         67         70	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56 960.00 223.34 855.56	QTY of Units 10 17 11 9 8 8 16 9 6	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00 2,204.48 15,360.00 2,010.06 5,133.36
Freight Class 125 125 125 175 92.5 250 92.5 92.5 92.5	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs Refrigerators Flat Screen TVs Computers Computers	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         69         73         75         62         72         67         70         74	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56 960.00 223.34 855.56 986.67	QTY of Units 10 17 11 9 8 8 16 9 6 7	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00 2,204.48 15,360.00 2,010.06 5,133.36 6,906.69
Freight Class 125 125 125 92.5 250 92.5 92.5 92.5 92.5	Point of Origins Manila, Philippines	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville, FL	Cargo Commodity Small Household Appliances Small Household Appliances Clothing Refrigerators Mattresses & Box Springs Refrigerators Flat Screen TVs Computers Computers	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         69         73         75         62         70         74         62	Weight, Ibs. 598.89 536.67 486.67 1,000.00 275.56 960.00 223.34 855.56 986.67 826.67	QTY of Units 10 17 11 9 8 8 16 9 6 7 14	Weight, Ibs. 5,988.90 9,123.39 5,353.37 9,000.00 2,204.48 15,360.00 2,010.06 5,133.36 6,906.69 11,573.38







Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	ltem Weight, Ibs.	QTY of Units	Total Weight, Ibs.
175		Seattle, WA	Clothing	48	40	80	444.45	6	2,666.70
92.5		Portland, OR	Computers	48	40	62	757.78	12	9,093.36
250		Los Angeles, CA	Flat Screen TVs	48	40	80	355.56	5	1,777.80
250		San Francisco, CA	Mattresses & Box Springs	48	40	65	288.89	17	4,911.13
92.5		Reno, NV	Monitors	48	40	80	1,066.67	10	10,666.70
125	Seoul <i>,</i> South Korea	Chicago, IL	Small Household Appliances	48	40	60	533.34	16	8,533.44
92.5		Dallas, TX	Refrigerators	48	40	78	1,040.00	7	7,280.00
125		Atlanta, GA	Small Household Appliances	48	40	61	474.45	18	8,540.10
125		New York, NY	Small Household Appliances	48	40	69	613.34	19	11,653.46
92.5		Jacksonville, FL	Computers	48	40	78	1,040.00	13	13,520.00
92.5		Anchorage, AK	Computers	48	40	62	826.67	11	9,093.37
							Item		Total
Freight	Point of Origins	Doctination	Cargo	Length,	Width,	Height,	Weight,	QTY of	Weight,
125	ongins	Seattle, WA	Small Household Appliances	48	40	75	666.67	5	3,333.35
125		Portland, OR	Small Household Appliances	48	40	76	591.12	15	8,866.80
175		Los Angeles, CA	Clothing	48	40	69	460.00	10	4,600.00
92.5		<u> </u>	-						
		San Francisco, CA	Computers	48	40	74	904.45	7	6,331.15
250	Shanghai, China	San Francisco, CA Reno, NV	Computers Flat Screen TVs	48 48	40 40	74 80	904.45 266.67	7	6,331.15 3,200.04
250 92.5	Shanghai, China	San Francisco, CA Reno, NV Chicago, IL	Computers Flat Screen TVs Refrigerators	48 48 48	40 40 40	74 80 71	904.45 266.67 867.78	7 12 10	6,331.15 3,200.04 8,677.80
250 92.5 250	Shanghai, China	San Francisco, CA Reno, NV Chicago, IL Dallas, TX	Computers Flat Screen TVs Refrigerators Flat Screen TVs	48 48 48 48	40 40 40 40	74           80           71           60	904.45 266.67 867.78 200.00	7 12 10 9	6,331.15 3,200.04 8,677.80 1,800.00
250 92.5 250 92.5	Shanghai, China	San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA	Computers Flat Screen TVs Refrigerators Flat Screen TVs Refrigerators	48 48 48 48 48 48	40 40 40 40 40	74 80 71 60 75	904.45 266.67 867.78 200.00 1,000.00	7 12 10 9 9	6,331.15 3,200.04 8,677.80 1,800.00 9,000.00
250 92.5 250 92.5 125	Shanghai, China	San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY	Computers Flat Screen TVs Refrigerators Flat Screen TVs Refrigerators Small Household Appliances	48 48 48 48 48 48 48	40 40 40 40 40 40 40	74 80 71 60 75 71	904.45 266.67 867.78 200.00 1,000.00 631.12	7 12 10 9 9 17	6,331.15 3,200.04 8,677.80 1,800.00 9,000.00 10,729.04
250 92.5 250 92.5 125 125	Shanghai, China	San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville, FL	Computers Flat Screen TVs Refrigerators Flat Screen TVs Refrigerators Small Household Appliances Small Household Appliances	48 48 48 48 48 48 48 48	40 40 40 40 40 40 40 40	74       80       71       60       75       71       73	904.45 266.67 867.78 200.00 1,000.00 631.12 648.89	7 12 10 9 9 17 9	6,331.15 3,200.04 8,677.80 1,800.00 9,000.00 10,729.04 5,840.01







							Item		Total
Freight Class	Point of Origins	Destination	Cargo Commodity	Length, inches	Width, inches	Height, inches	Weight,	QTY of	Weight, Ibs
125	Ongins	Seattle WA	Small	/18	40	62	482.23	10	4 822 30
125		Scattle, Wrt	Household	40	40	02	402.25	10	4,022.30
			Appliances						
92 5		Portland	Computers	48	40	71	867 78	6	5 206 68
52.5		OR	computers	10	10	/-	007.70	Ũ	3,200.00
175		Los Angeles.	Clothing	48	40	63	350.00	10	3,500.00
2.0		CA	0.00.000				000100		0,000.00
92.5	-	San	Computers	48	40	76	928.89	14	
		Francisco.							13.004.46
		CA							-,
250		Reno, NV	Flat Screen	48	40	71	236.67	14	3,313.38
	<b>_</b>		TVs						
250	Тагрег,	Chicago, IL	Bamboo	48	40	62	275.56	6	1,653.36
	Taiwan	0,1	Furniture						
92.5		Dallas, TX	Computers	48	40	76	1,013.34	18	
									18,240.12
125		Atlanta, GA	Small	48	40	60	466.67	17	7,933.39
			Household						
			Appliances						
92.5		New York,	Refrigerators	48	40	76	1,013.34	5	5,066.70
		NY							
125		Jacksonville,	Small	48	40	76	675.56	10	6,755.60
		FL	Household						
			Appliances						
92.5		Anchorage,	Monitors	48	40	67	818.89	5	4,094.45
		AK							
							Item		Total
Freight	Point of Origins	Destination	Cargo	Length,	Width,	Height,	ltem Weight, Ibs	QTY of	Total Weight, Ibs
Freight Class 92.5	Point of Origins	Destination Seattle, WA	Cargo Commodity Computers	Length, inches 48	Width, inches 40	Height, inches 77	Item Weight, Ibs. 1.026.67	QTY of Units 20	Total Weight, Ibs.
Freight Class 92.5	Point of Origins	Destination Seattle, WA	Cargo Commodity Computers	Length, inches 48	Width, inches 40	Height, inches 77	Item Weight, Ibs. 1,026.67	QTY of Units 20	Total Weight, Ibs. 20.533.40
Freight Class 92.5 175	Point of Origins	Destination Seattle, WA Portland.	Cargo Commodity Computers Clothing	Length, inches 48 48	Width, inches 40 40	Height, inches 77 67	Item Weight, Ibs. 1,026.67 372.23	QTY of Units 20 19	Total Weight, Ibs. 20,533.40 7.072.37
Freight Class 92.5 175	Point of Origins	Destination Seattle, WA Portland, OR	Cargo Commodity Computers Clothing	Length, inches 48 48	Width, inches 40 40	Height, inches 77 67	Item Weight, Ibs. 1,026.67 372.23	QTY of Units 20 19	Total Weight, Ibs. 20,533.40 7,072.37
Freight Class 92.5 175 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles,	Cargo Commodity Computers Clothing Computers	Length, inches 48 48 48	Width, inches 40 40 40	Height, inches 77 67 70	Item Weight, Ibs. 1,026.67 372.23 933.34	QTY of Units 20 19 20	Total Weight, Ibs. 20,533.40 7,072.37
Freight Class 92.5 175 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA	Cargo Commodity Computers Clothing Computers	Length, inches 48 48 48 48	Width, inches 40 40 40	Height, inches 77 67 70	Item Weight, Ibs. 1,026.67 372.23 933.34	QTY of Units 20 19 20	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80
Freight Class 92.5 175 92.5 92.5 125	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San	Cargo Commodity Computers Clothing Computers Small	Length, inches 48 48 48 48 48	Width, inches 40 40 40 40	Height, inches 77 67 70 61	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45	QTY of Units 20 19 20 17	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65
Freight Class           92.5           175           92.5           125	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco,	Cargo Commodity Computers Clothing Computers Small Household	Length, inches 48 48 48 48 48	Width, inches 40 40 40 40	Height, inches 77 67 70 61	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45	QTY of Units 20 19 20 17	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65
Freight Class           92.5           175           92.5           125	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA	Cargo Commodity Computers Clothing Computers Small Household Appliances	Length, inches 48 48 48 48 48	Width, inches 40 40 40 40	Height, inches 77 67 70 61	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45	QTY of Units 20 19 20 17	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65
Freight Class 92.5 175 92.5 125 92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors	Length, inches 48 48 48 48 48 48	Width,         inches         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40	Height, inches 77 67 70 61 61	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34	QTY of Units 20 19 20 17 18	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65
Freight Class           92.5           175           92.5           125           92.5	Point of Origins	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors	Length, inches 48 48 48 48 48 48	Width,         inches         40         40         40         40         40         40         40         40         40         40         40         40         40	Height, inches           77           67           70           61           61	Item           Weight,           lbs.           1,026.67           372.23           933.34           474.45           813.34	QTY of Units 20 19 20 17 18	Total           Weight,           lbs.           20,533.40           7,072.37           18,666.80           8,065.65           14,640.12
Freight Class           92.5           175           92.5           125           92.5           125           92.5           175	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing	Length, inches 48 48 48 48 48 48 48	Width,         inches         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40	Height, inches 77 67 70 61 61 61 69	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00	QTY of Units 20 19 20 17 17 18 11	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00
Freight Class           92.5           175           92.5           125           92.5           125           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48	Width,         inches         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40	Height, inches 77 67 70 61 61 61 61 69 62	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78	QTY of Units 20 19 20 17 17 18 18 11 9	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02
Freight Class           92.5           175           92.5           125           92.5           125           92.5           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height, inches 77 67 70 61 61 61 61 69 62 69	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78 920.00	QTY of Units 20 19 20 17 17 18 18 11 9 20	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02
Freight Class           92.5           175           92.5           125           92.5           125           92.5           92.5           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40         40	Height, inches 77 67 70 61 61 61 61 69 62 69	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78 920.00	QTY of Units 20 19 20 17 17 18 18 11 9 20	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00
Freight Class           92.5           175           92.5           125           92.5           125           92.5           125           92.5           125           92.5           125	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York,	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small	Length, inches 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height, inches 77 67 70 61 61 61 69 62 69 62 69 68	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78 920.00 604.45	QTY of Units 20 19 20 17 17 18 18 11 9 20 20	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00 6,044.50
Freight Class           92.5           175           92.5           125           92.5           125           92.5           125           92.5           125           92.5           125	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small Household	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height, inches 77 67 70 61 61 61 61 62 69 62 69 62 69	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78 920.00 604.45	QTY of Units 20 19 20 17 17 18 11 9 20 20 10	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00 6,044.50
Freight Class           92.5           175           92.5           125           92.5           125           92.5           175           92.5           175           92.5           175           92.5           125	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small Household Appliances	Length, inches 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height, inches 77 67 70 61 61 61 61 62 69 62 69 68	Item Weight, Ibs. 1,026.67 372.23 933.34 474.45 813.34 460.00 757.78 920.00 604.45	QTY of Units 20 19 20 17 18 18 11 9 20 10	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00 6,044.50
Freight Class           92.5           175           92.5           125           92.5           125           92.5           175           92.5           175           92.5           92.5           92.5           92.5           92.5           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville,	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small Household Appliances Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         67         70         61         61         62         69         62         69         62         69         64	Item           Weight,           lbs.           1,026.67           372.23           933.34           474.45           813.34           460.00           757.78           920.00           604.45           853.34	QTY of Units 20 19 20 17 17 18 18 11 9 20 10 10	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00 6,044.50
Freight Class           92.5           175           92.5           125           92.5           125           92.5           175           92.5           175           92.5           92.5           92.5           92.5           92.5           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville, FL	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small Household Appliances Refrigerators Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         67         70         61         69         62         69         68         64	Item           Weight,           lbs.           1,026.67           372.23           933.34           474.45           813.34           460.00           757.78           920.00           604.45           853.34	QTY of Units           20           19           20           17           18           11           9           20           10           18	Total           Weight,           Jbs.           20,533.40           7,072.37           18,666.80           8,065.65           14,640.12           5,060.00           6,820.02           18,400.00           6,044.50           15,360.12
Freight Class           92.5           175           92.5           125           92.5           125           92.5           175           92.5           175           92.5           92.5           92.5           92.5           92.5           92.5           92.5           92.5	Point of Origins Tokyo, Japan	Destination Seattle, WA Portland, OR Los Angeles, CA San Francisco, CA Reno, NV Chicago, IL Dallas, TX Atlanta, GA New York, NY Jacksonville, FL Anchorage,	Cargo Commodity Computers Clothing Computers Small Household Appliances Monitors Clothing Refrigerators Refrigerators Small Household Appliances Refrigerators Refrigerators Refrigerators	Length, inches 48 48 48 48 48 48 48 48 48 48 48 48 48	Width,         inches         40	Height,         inches         77         67         70         61         69         62         69         68         64         62	Item           Weight,           lbs.           1,026.67           372.23           933.34           474.45           813.34           460.00           757.78           920.00           604.45           853.34           757.78	QTY of Units           20           19           20           17           18           11           9           20           10           18           11	Total Weight, Ibs. 20,533.40 7,072.37 18,666.80 8,065.65 14,640.12 5,060.00 6,820.02 18,400.00 6,044.50 15,360.12







					Wid				
Fuelab				Lengt	th,	llaiaht	Item		Total
t Class	Point of Origins	Destination	Cargo Commodity	inches	es	inches	lbs.	Units	lbs.
92.5		Seattle, WA	Refrigerators	48	40	73	892.23	9	8,030.07
175		Portland, OR	Clothing	48	40	65	361.12	15	5,416.80
92.5		Los Angeles,	Monitors	48	40	74	986.67	15	
		CA							14,800.0
									5
125		San Francisco,	Small	48	40	80	711.12	10	7,111.20
		CA	Household						
			Appliances						
92.5		Reno, NV	Computers	48	40	74	986.67	12	
	Zhengzhou								11,840.0
	China								4
175	China	Chicago, IL	Couches	48	40	78	433.34	14	6,066.76
92.5		Dallas, TX	Computers	48	40	61	745.56	11	8,201.16
92.5		Atlanta, GA	Refrigerators	48	40	66	806.67	8	6,453.36
125		New York, NY	Small	48	40	70	622.23	5	3,111.15
			Household						
			Appliances						
92.5		Jacksonville,	Monitors	48	40	78	1,040.00	7	7,280.00
		FL							
92.5		Anchorage, AK	Computers	48	40	80	1,066.67	18	
									19,200.0
									6

## 8.4 ANC PASS Market Quote Basis

ANC PASS a full air cargo charter rate for a 767-300 was requested from each point of origin to Alaska. Transload and drayage quotes in Anchorage were obtained. It was assumed that the transload costs from ship to truck would be the same as the costs in Anchorage. The same truck quotes received for Seattle to each destination in Section 8.2 Truck were used in calculating the ANC PASS rate.

## 8.5 ANC PASS+ Market Quote Basis

ANC PASS+ uses the same quotes as ANC PASS for air cargo charter between the points of origin and Anchorage and for trucking from Seattle to the destinations. Naniq Global Logistics, LLC provided a full truck load quote for a full truckload from Anchorage to Seattle/Tacoma.

## 8.6 Currency Conversion

The market quotes with point of origins in Asia were provided in the currency of the point of origin; so, these quotes were converted to US dollars by using the exchange rates shown in the table below:

		Exchange Rate (FX to		
Currency Code	Currency Name (FX)	USD)	Date Sourced	Time Sourced, AKST
ТНВ	Thai Baht	0.032	5/21/2021	1:12pm
CNY	Chinese Yuan Renminbi	0.155	5/21/2021	1:12pm
HKD	Hong Kong Dollar	0.129	5/21/2021	1:12pm
TWD	Taiwan New Dollar	0.036	5/21/2021	1:12pm
USD	US Dollar	1.000	5/21/2021	1:12pm
JPY	Japanese Yen	0.009	5/21/2021	1:12pm

Table VIII Exchange Rates used for Market Quotes Currency Conversions







# 9 Cost and Transit Duration Comparisons

The market quotes were obtained from a limited number of companies. In cases where quotes were obtained from multiple service providers for the same transportation lane or segment, the lower price was used. As expected, traditional ocean transport with truck to destination is the lowest cost and longest duration, traditional air cargo is the highest cost and shortest duration, and ANC PASS is less expensive than air cargo and much faster than ocean transport to the west coast with truck to the destination. With eleven points of origins and seven destinations, seventy-seven transportation lanes were using three different modes of transportation were evaluated. For ease of comparison between points of origins, quotes were normalized to a cost per kilogram (\$/kg) and averaged to identify which locations offered the biggest cost savings and the shortest transit time as shown in the table below:

		Traditi Ocean Truck	onal plus	Tradit Air Ca	tional Irgo	ANC F	PASS	ANC F	PASS+
Point of Origin	ΙΑΤΑ	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days	Cost, \$/kg	Transit, Days
Bangkok, Suvarnabhumi International	BKK	\$1.28	29-47	\$15.14	1-3	\$10.58	7-19	\$11.66	6-15
Zhengzhou - Xinzheng International Airport	CGO	\$1.53	28-42	\$10.68	1-3	\$9.50	7-19	\$10.58	6-15
Chengdu - Shuangliu	СТИ	\$1.53	28-42	\$11.10	1-3	\$7.07	7-19	\$8.15	6-15
Hanoi - Noi Bai International Airport	HAN	\$1.23	25-43	\$13.41	1-3	\$11.10	7-19	\$12.18	6-15
Hong Kong - International Airport (HKIA)	HKG	\$1.16	27-41	\$10.24	1-3	\$9.58	7-19	\$10.66	6-15
Manila - Ninoy Aquino International	MNL	\$1.28	19-52	\$8.66	1-3	\$9.63	7-19	\$10.71	6-15
Tokyo - Narita	NRT	\$1.19	18-36	\$9.10	1-3	\$7.01	7-19	\$8.09	6-15
Saigon (Ho Chi Minh City) - Tan Son Nhat International	SGN	\$1.23	27-45	\$13.41	1-3	\$11.22	7-19	\$12.30	6-15
Shanghai - Pudong International Airport	PVG	\$1.22	25-39	\$10.30	1-3	\$8.88	7-19	\$9.96	6-15
Taipei - Chiang Kai Shek	TPE	\$1.22	26-38	\$15.75	1-3	\$6.58	7-19	\$7.66	6-15
Seoul - Incheon International Airport	ICN	\$1.19	19-38	\$10.25	1-3	\$5.05	7-19	\$6.13	6-15

Table IX Average Cost Per Kilogram and Transit Time by Transportation Mode







On average, across all transportation lanes, ANC PASS has an average transit time savings of 18-23 days when compared to marine and over-the-road (OTR) transportation. When compared to the air cargo costs, ANC PASS provides an average costs savings of 23% over all transportation lanes. The points of origins that offer the largest transit time reductions and costs savings, sometimes referred to as the lowest hanging fruit, are Bangkok, Chengdu, and Taipei. Every transportation lane originating in Bangkok, Chengdu, and Taipei offer savings when compared to air cargo costs and much lower transit times when compared to Ocean transportation. An interesting fact to note about Manilla is that the data revealed that Manila air cargo rates are a lot lower than the other points of origins, so ANC PASS offers little benefit across the proposed transportation lanes. The diagram below provides a visual comparison of cost and transit time averages by point of origin.



Figure III Comparative Cost and Transit Times



The detail cost/kg by point of origin to each destination by mode is shown below:







#### Table X Detailed Cost per Kilogram and Transit Time by Point of Origin to Each Destination

Origin City Destination City	Destination	TR/	ADITION & TRI TRANS	AL OCEAN UCK PORT Transit Time	TF \$/Kg	RADITION CARGO	AL AIR D Transit Time	ANC \$/kg	PASS	ANC \$/kg	PASS+	Transit Time
Bangkok, Suvarnabhumi		<i>\</i> <b>7</b>	0	29-47	7/18		1-3	77.5		7/ 18		7-19
International (BKK)	AVERAGE ==>	\$	1.28	Days	\$	15.14	Days	\$	10.58	\$	11.66	Days
Atlanta	ATL	\$	1.46		\$	14.77		\$	10.67	\$	11.75	
Dallas	DFW	\$	1.34		\$	14.04		\$	10.56	\$	11.64	
Jacksonville	JAX	\$	1.36		\$	15.92		\$	10.58	\$	11.66	
New York	JFK	\$	1.51		\$	14.77		\$	10.73	\$	11.81	
Chicago	ORD	\$	1.30		\$	15.03		\$	10.52	\$	11.60	
Portland	PDX	\$	1.00		\$	15.79		\$	10.50	\$	11.58	
Seattle	SEA	\$	1.00		\$	15.66		\$	10.50	\$	11.58	
Chengdu - Shuangliu (CTU)	AVERAGE ==>	\$	1.53	28-42	\$	11.10	1-3	\$	7.07	\$	8.15	7-19
Anchorage	ANC		N/A	Days	\$	13.68	Days	\$	7.02	\$	8.10	Days
Atlanta	ATL	\$	1.76		\$	10.80	-	\$	7.19	\$	8.27	
Dallas	DFW	\$	1.65		\$	10.72	-	\$	7.08	\$	8.16	
New York	JFK	\$	1.82		\$	10.88	-	\$	7.25	\$	8.33	
Los Angeles	LAX	\$	1.30		\$	10.26		\$	7.02	\$	8.10	
Orlando	МСО	\$	1.67		\$	11.19	-	\$	7.10	\$	8.18	
Chicago	ORD	\$	1.61		\$	10.26		\$	7.04	\$	8.12	
Portland	PDX	\$	1.30		\$	11.34		\$	7.02	\$	8.10	
Seattle	SEA	\$	1.30		\$	11.34		\$	7.02	\$	8.10	
San Francisco	SFO	\$	1.30		\$	10.57		\$	7.02	\$	8.10	







Origin City	Destination	TRA	ADITION & TRI TRANS	AL OCEAN JCK PORT Transit	т	RADITION CARGO	AL AIR D Transit	ANC	PASS	ANC	PASS+	Transit
Destination City	ΙΑΤΑ	\$/K	g	Time	\$/Kg	{	Time	\$/kg		\$/kg		Time
Hanoi - Noi Bai		ć	1 22	25-43	ć	12 /1	1-3	ć	11 10	ć	13.10	7-19
	AVERAGE ==>	Ş	1.23	Days	<b>ې</b> د	121.02	Days	<b>ې</b> د	11.10	<b>&gt;</b>	12.10	Days
Δtlanta		¢	1.46	•	ې د	13.02		ې د	11.05	ې د	12.15	
Dallas	DFW	Ś	1.35	-	Ś	13.02		Ś	11.11	Ś	12.30	
Jacksonville	JAX	\$	1.37	-	\$	16.02		\$	11.13	\$	12.21	
New York	JFK	\$	1.52		\$	12.52		\$	11.28	\$	12.36	-
Los Angeles	LAX	\$	1.00		\$	12.52		\$	11.05	\$	12.13	
Chicago	ORD	\$	1.31		\$	12.52		\$	11.07	\$	12.15	
Portland	PDX	\$	1.00		\$	16.02		\$	11.05	\$	12.13	
Seattle	SEA	\$	1.00		\$	12.52		\$	11.05	\$	12.13	
San Francisco	SFO	\$	1.00		\$	12.52		\$	11.05	\$	12.13	
Ho Chi Minh City - Tan Son Nhat International (SGN)	AVERAGE ==>	\$	1.23	27-45 Days	\$	13.41	1-3 Days	\$	11.22	\$	12.30	7-19 Days
Atlanta	ATL	\$	1.45		\$	12.04		\$	11.31	\$	12.39	
Dallas	DFW	\$	1.33		\$	13.34		\$	11.20	\$	12.28	
Jacksonville	JFK	\$	1.51		\$	11.74		\$	11.37	\$	12.45	
Orlando	MCO	\$	1.35	-	\$	12.34		\$	11.22	\$	12.30	
Portland	PDX	\$	0.99		\$	12.64		\$	11.14	\$	12.22	
Seattle	SEA	\$	0.99	-	\$	13.04		\$	11.14	\$	12.22	-
San Francisco	SFO	\$	0.99		\$	18.74		\$	11.14	\$	12.22	





Origin City	Destination	TR	ADITION & TRI TRANS	AL OCEAN JCK PORT	TF		AL AIR D	ANC	PASS	ANC	PASS+	
Doctination City		¢ /v	'n	Transit	¢/Va		Transit	¢/ka		¢/ka		Transit
Hong Kong - International		٦ <i>ب</i> رچ	<u>-8</u>	77-41	⇒/ ĸg		1.3	, э/ кg		<i>э</i> / к <u></u>		7-19
Airport (HKG)	AVERAGE ==>	\$	1.16	Days	\$	10.24	Days	\$	9.58	\$	10.66	Days
Anchorage	ANC		N/A		\$	12.39		\$	9.54	\$	10.62	
Dallas	DFW	\$	1.32		\$	9.79		\$	9.60	\$	10.68	
New York	JFK	\$	1.49		\$	9.79		\$	9.77	\$	10.85	
Los Angeles	LAX	\$	0.97		\$	9.40		\$	9.54	\$	10.62	
Orlando	MCO	\$	1.34		\$	10.28		\$	9.62	\$	10.70	
Chicago	ORD	\$	1.28		\$	9.66		\$	9.56	\$	10.64	
Portland	PDX	\$	0.97		\$	10.30		\$	9.54	\$	10.62	
Seattle	SEA	\$	0.97		\$	10.30		\$	9.54	\$	10.62	
San Francisco	SFO	\$	0.97		\$	10.20		\$	9.54	\$	10.62	
Manila - Ninoy Aquino				19-52			1-3					7-19
International (MNL)	AVERAGE ==>	\$	1.28	Days	\$	8.66	Days	\$	9.63	\$	10.71	Days
Atlanta	ATL	\$	1.47		\$	9.58		\$	9.72	\$	10.80	
Dallas	DFW	\$	1.36		\$	8.62		\$	9.61	\$	10.69	
New York	JFK	\$	1.53		\$	8.72		\$	9.78	\$	10.86	
Los Angeles	LAX	\$	1.01		\$	8.67		\$	9.55	\$	10.63	
Chicago	ORD	\$	1.32		\$	8.82		\$	9.57	\$	10.65	
San Francisco	SFO	\$	1.01		\$	7.54		\$	9.55	\$	10.63	







Origin City	Destination	TRADITIONAL OCEAN & TRUCK TRANSPORT			TRADITIONAL AIR CARGO			ANC	PASS	ANC	PASS+	
Destination City	ΙΑΤΑ	\$/Kg		Transit Time	Ś/Kg		Transit Time	\$/kg		\$/kg		Transit Time
Seoul - Incheon			0	19-38	., .		1-3	17 0				7-19
International Airport (ICN)	AVERAGE ==>	\$	1.19	Days	\$	10.25	Days	\$	5.05	\$	6.13	Days
Atlanta	ATL	\$	1.43		\$	9.87		\$	5.16	\$	6.24	
Dallas	DFW	\$	1.32		\$	9.69		\$	5.05	\$	6.13	
New York	JFK	\$	1.49		\$	9.69		\$	5.22	\$	6.30	
Los Angeles	LAX	\$	0.97		\$	8.79		\$	4.99	\$	6.07	
Orlando	MCO	\$	1.34		\$	10.14		\$	5.07	\$	6.15	
Chicago	ORD	\$	1.28		\$	9.51		\$	5.01	\$	6.09	
Portland	PDX	\$	0.97		\$	9.69		\$	4.99	\$	6.07	
Seattle	SEA	\$	0.97		\$	15.64		\$	4.99	\$	6.07	
San Francisco	SFO	\$	0.97		\$	9.24		\$	4.99	\$	6.07	
Shanghai - Pu Dong (PVG)	AVERAGE ==>	\$	1.22	25-39	\$	10.30	1-3	\$	8.88	\$	9.96	7-19
Anchorage	ANC		N/A	Days	\$	12.59	Days	\$	8.82	\$	9.90	Days
Atlanta	ATL	\$	1.43		\$	10.02		\$	8.99	\$	10.07	
Dallas	DFW	\$	1.32		\$	10.02		\$	8.88	\$	9.96	
New York	JFK	\$	1.49		\$	9.87		\$	9.05	\$	10.13	
Los Angeles	LAX	\$	0.97		\$	9.56		\$	8.82	\$	9.90	
Orlando	MCO	\$	1.34		\$	10.54		\$	8.90	\$	9.98	
Chicago	ORD	\$	1.28		\$	9.56		\$	8.84	\$	9.92	
Portland	PDX	\$	0.97		\$	10.41		\$	8.82	\$	9.90	
San Francisco	SFO	\$	0.97		\$	10.18		\$	8.82	\$	9.90	







Origin City	Destination	TRADITIONAL OCEAN & TRUCK TRANSPORT			TF	ADITION CARGO	AL AIR D	ANC PASS		ANC PASS+		
Destination City	ΙΑΤΑ	Ś/Kg		Transit Time	\$/Kg		Transit Time	\$/kg		\$/kg		Transit Time
Taipei - Chiang Kai Shek (TPE)	AVERAGE ==>	\$	1.22	26-38 Days	\$	15.75	1-3 Days	\$	6.58	\$	7.66	7-19 Days
Anchorage	ANC		N/A		\$	17.94		\$	6.52	\$	7.60	
Atlanta	ATL	\$	1.46		\$	15.40		\$	6.69	\$	7.77	
Dallas	DFW	\$	1.34		\$	15.40		\$	6.58	\$	7.66	
New York	JFK	\$	1.51		\$	15.40		\$	6.75	\$	7.83	
Los Angeles	LAX	\$	1.00		\$	15.40		\$	6.52	\$	7.60	
Orlando	MCO	\$	1.36		\$	15.76		\$	6.60	\$	7.68	
Chicago	ORD	\$	1.30		\$	15.40		\$	6.54	\$	7.62	
Portland	PDX	\$	1.00		\$	15.98		\$	6.52	\$	7.60	
Seattle	SEA	\$	1.00		\$	15.40		\$	6.52	\$	7.60	
San Francisco	SFO	\$	1.00		\$	15.40		\$	6.52	\$	7.60	
Tokyo - Narita (NRT)	AVERAGE ==>	\$	1.19	18-36	\$	9.10	1-3	\$	7.01	\$	8.09	7-19
Anchorage	ANC		N/A	Days	\$	11.55	Days	\$	6.96	\$	8.04	Days
Atlanta	ATL	\$	1.43		\$	8.82		\$	7.13	\$	8.21	
Dallas	DFW	\$	1.32		\$	8.87		\$	7.02	\$	8.10	
New York	JFK	\$	1.49		\$	8.73		\$	7.19	\$	8.27	
Los Angeles	LAX	\$	0.97		\$	8.55		\$	6.96	\$	8.04	
Orlando	МСО	\$	1.34		\$	9.12		\$	7.04	\$	8.12	
Chicago	ORD	\$	1.28		\$	8.73		\$	6.98	\$	8.06	
Portland	PDX	\$	0.97		\$	9.05		\$	6.96	\$	8.04	
Seattle	SEA	\$	0.97		\$	9.05		\$	6.96	\$	8.04	
San Francisco	SFO	\$	0.97		\$	8.55		\$	6.96	\$	8.04	







Origin City	Destination	TRADITIONAL OCEAN & TRUCK TRANSPORT Transit			TRADITIONAL AIR CARGO Transit			ANC P	ASS	ANC PASS+		Transit
Zhengzhou - Xinzheng		Ş/Kg		11me 28-42	ş/ Kg		1.me 1-3	<b>\$7 к</b> g		ş/ κg		7-19
International Airport (CGO)	AVERAGE ==>	\$	1.53	Days	\$	10.68	Days	\$	9.50	\$	10.58	Days
Anchorage	ANC		N/A		\$	13.21		\$	9.45	\$	10.53	
Atlanta	ATL	\$	1.76		\$	10.33		\$	9.62	\$	10.70	
Dallas	DFW	\$	1.65		\$	10.26		\$	9.51	\$	10.59	
New York	JFK	\$	1.82		\$	10.41		\$	9.68	\$	10.76	
Los Angeles	LAX	\$	1.30		\$	9.79		\$	9.45	\$	10.53	
Orlando	МСО	\$	1.67		\$	10.88		\$	9.53	\$	10.61	
Chicago	ORD	\$	1.61		\$	9.79		\$	9.47	\$	10.55	
Portland	PDX	\$	1.30		\$	10.88		\$	9.45	\$	10.53	
Seattle	SEA	\$	1.30		\$	10.88		\$	9.45	\$	10.53	
San Francisco	SFO	\$	1.30		\$	10.41		\$	9.45	\$	10.53	

It is important to note that the prices provided above are non-negotiated rates, therefore, through cargo and schedule commitments, there is an opportunity to further reduce the cost of ANC PASS and ANC PASS+.







# 10 Testing the ANC PASS Concept

Through a series of teleconferences and meetings, the NGL team tested the concept of ANC PASS with personnel working for beneficial cargo owners and freight forwarders. The goal of the meetings was to identify the level of interest and to understand concerns for the concept. The companies included:

- Tapestry, Inc., a holding company for Coach New York, Kate Spade New York, and Stuart Weitzman
- DB Schenker USA, an integrated logistics service provider with forty-seven branches and sixty logistics centers
- Walmart, Inc., a multinational retail corporation operating a chain of department and grocery stores throughout the USA
- CBX Global, a multinational corporation providing supply chain solutions with twenty-three facilities operating in eight countries
- Odyssey Logistics, an international freight forwarding company that offers logistics solutions across industries
- American Fast Freight a transportation and logistics company and subsidiary of Odyssey Logistics. AFF has transportation terminals in Anchorage, Fairbanks, Kenai-Soldotna, Alaska and terminals in Fife, WA, San Leandro, CA and Carson, CA.
- FedEx Ground specializes in ground transportation services and is a subsidiary of FedEx Corporation.
- Defense Logistics Services a logistics consulting company providing services to
- Kestrel Group a privately owned group of companies providing international logistics services representing multiple international shipping lines.

Both beneficial cargo owners and freight forwarders stated that if ANC PASS was available, they would be using it to side-step the negative impacts of west coast port congestion. Freight forwarders are looking for alternative transportation solutions for their clients. Beneficial cargo owners stated that the potential for continued use after west coast port congestion lessens for a smaller percentage of their time critical cargo. Beneficial cargo owners stated that ANC PASS would provide them transportation assurance that hard deadlines could be met. Both beneficial cargo owners and freight forwarders recognized there is a global shortage of airlift, so finding an air charter between Asia and Anchorage could be difficult. There was general agreement that the most likely opportunity was finding a beneficial cargo owner that already had an air charter and convincing the beneficial cargo owner to re-deploy the air charter to an Asia and Anchorage route.

# **11 Follow-up Recommendations**

The US House of Representatives Subcommittee on Coast Guard and Maritime Transportation have held hearings on the impacts of shipping container shortages, delays, and increased demand on the North American Supply Chain. There is interest in alleviating the strain and preventing future disruptions. Pursuing federal funding for a year-long demonstration project of ANC PASS is recommended. Demonstrating the effectiveness of ANC PASS will lower the hurdles for entry into this operation.

Marketing the ANC PASS concept to beneficial cargo owners is recommended. The beneficial cargo owners are the ultimate decision makers on the movement of freight.

