

“Nebraska Model” Presentation

Data Collection

July 18th, 2006

Agenda

- International Distribution
 - Facility Data
 - Demand Data
 - Replenishment Data
 - Outbound Data
- Domestic Distribution

Facility Costs

- Currently, to simulate the real situation roughly, we only use rent, Electricity and Maintenance contributing to fixed costs and Wages for variable costs.

- Facility costs=Fixed costs + Variable costs
 - Fixed costs=Warehouse Rent + Electricity + Maintenance
 - Variable costs=Wage

Facility Costs-Rent Costs

- We used the 2004 indices to get the index number of those four costs.
 - Assumption: rent a warehouse for 100,000 sf/yr.
 - **Total costs=Index*0.01*Norm#*100,000**
- Warehouse Rent Costs (Dollars, 100,000 sf/yr)

Location	Index	Norm#	Total costs
Atlanta, GA	93.00	\$3.60	\$334,800.00
Houston, TX	131.00	\$3.60	\$471,600.00
Memphis, TN-AR-MS	83.00	\$3.60	\$298,800.00
Miami, FL	146.00	\$3.60	\$525,600.00
Norfolk-Virginia	113.00	\$3.60	\$406,800.00
Omaha, NE-IA	90.00	\$3.60	\$324,000.00
San Diego, CA	167.00	\$3.60	\$601,200.00

2 lowest

Facility Costs-Maintenance Costs

- Assumption: rent a warehouse for 100,000 sf/yr.
- **Total costs=Index*0.01*Norm#*100,000**
- Maintenance Costs (Dollars, 100,000 sf/yr)

Location	Index	Norm#	Total costs
Atlanta, GA	67.00	\$0.15	\$10,050.00
Houston, TX	60.00	\$0.15	\$9,000.00
Memphis, TN-AR-MS	77.00	\$0.15	\$11,550.00
Miami, FL	115.00	\$0.15	\$17,250.00
Norfolk-Virginia	100.00	\$0.15	\$15,000.00
Omaha, NE-IA	54.00	\$0.15	\$8,100.00
San Diego, CA	92.00	\$0.15	\$13,800.00

1 lowest

Facility Costs- Electricity

- Assumption: rent a warehouse for 100,000 sf/yr.
- **Total costs=Index*0.01*Norm#*100,000**
 - Electricity Costs (Dollars, 100,000 sf/yr)

Location	Index	Norm#	Total costs
Atlanta, GA	90.00	\$0.0454	\$25,741.80
Houston, TX	99.00	\$0.0454	\$28,315.98
Memphis, TN-AR-MS	76.00	\$0.0454	\$21,737.52
Miami, FL	104.00	\$0.0454	\$29,746.08
Norfolk-Virginia	84.00	\$0.0454	\$24,025.68
Omaha, NE-IA	98.00	\$0.0454	\$28,029.96
San Diego, CA	167.00	\$0.0454	\$47,765.34

#4 lowest

Facility Costs- Wage

- Assumption: 10 employees per warehouse and work 1920 hours per year.
- **Total costs=Index*0.01*Norm#*1920*10**
 - Wages (Dollars, 10 employees, 1920 hours/yr)

Location	Index	Norm#	Total costs
Atlanta, GA	98.00	\$14.74	\$277,347.84
Houston, TX	101.00	\$14.74	\$285,838.08
Memphis, TN-AR-MS	96.00	\$14.74	\$271,687.68
Miami, FL	97.00	\$14.74	\$274,517.76
Norfolk-Virginia	113.00	\$14.74	\$319,799.04
Omaha, NE-IA	99.00	\$14.74	\$280,177.92
San Diego, CA	105.00	\$14.74	\$297,158.40

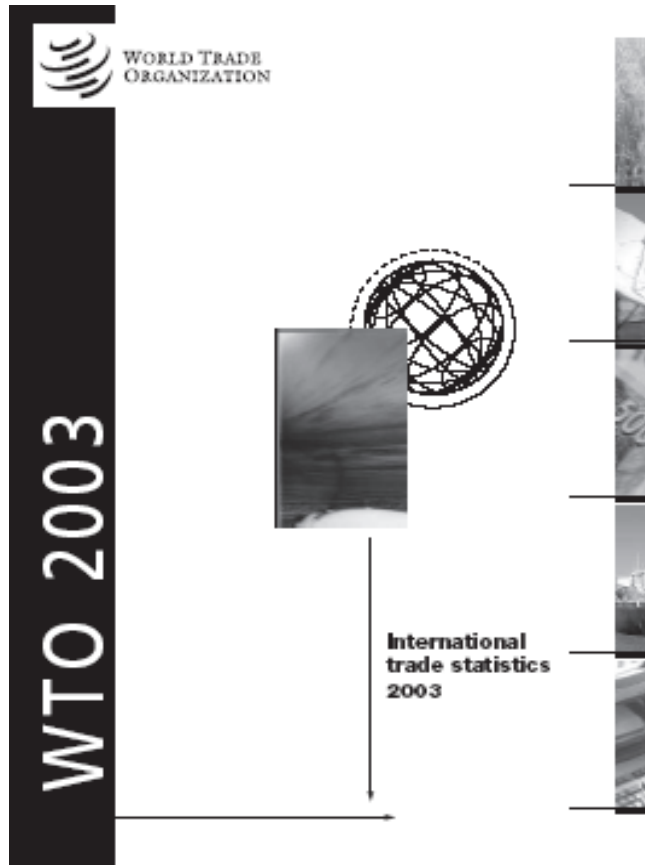
#4 lowest

Facility Costs- Total costs

	Fixed Cost				Variable Cost	
	Net Rent	Electric	Maintenance	Total	Wage	Total
Atlanta, GA	\$334,800.00	\$25,741.80	\$10,050.00	\$370,591.80	\$277,347.84	\$647,940
Houston, TX	\$471,600.00	\$28,315.98	\$9,000.00	\$508,915.98	\$285,838.08	\$794,754
Memphis, TN-AR-MS	\$298,800.00	\$21,737.52	\$11,550.00	\$332,087.52	\$271,687.68	\$603,775
Miami, FL	\$525,600.00	\$29,746.08	\$17,250.00	\$572,596.08	\$274,517.76	\$847,114
Norfolk-Virginia	\$406,800.00	\$24,025.68	\$15,000.00	\$445,825.68	\$319,799.04	\$765,625
Omaha, NE-IA	\$324,000.00	\$28,029.96	\$8,100.00	\$360,129.96	\$280,177.92	\$640,308
San Diego, CA	\$601,200.00	\$47,765.34	\$13,800.00	\$662,765.34	\$297,158.40	\$959,924

- ❑ Omaha ranks second lowest facility costs city after Memphis.
- ❑ Now we have real numbers and evidence to support our advantage that we are competitive according to facility costs among the seven DCs.

Products Category



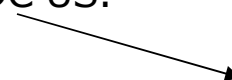
- We need to set up a portfolio to contain top products that USA imports every year and estimate their demands.
- We choose 'WTO International Trade Statistics 2003' as our reference to get the ranking and demanding information.

Products Category

- We will use this Top 14 products to set up a portfolio which contains the most volume products USA imports every year.
- Next step:
 - Estimate demands (pick a detailed product for each category).
 - Find out the export country for each product (Biggest partner with USA for a certain product) and calculate the transportation costs through overseas.

Products	Value 2002	Share 2002
Automotive products	224.3	15.7%
Other machinery and transport equipment	208.9	14.6%
Office and telecom equipment	194.4	13.6%
Other consumer goods	170.5	11.9%
Fuels	133.3	9.3%
Chemicals	110.4	7.7%
Other semi-manufactures	102.8	7.2%
Clothing	71	5.0%
Food	68.8	4.8%
Textile	20.9	1.5%
Iron and steel	20.2	1.4%
Non-ferrous metals	19.6	1.4%
Raw materials	19.4	1.4%
Ores and other minerals	7.7	0.5%

Ex: Nike shoes
from Qingdao CN
to each DC US.



Overseas Transportation



<https://www.maerskline.com>

Maersk, world-class ocean carrier, offers second-to-none, door-to-door transportation service. With more than 500 container vessels, 1,400,000 containers and terminals, trucks and trains. They have offices in more than 125 countries.

Overseas Transportation

Choose products

Cargo

Choose one of following*

Commodity group : Sports goods

Commodity :

Details:

The commodity requires reefer temperature

The commodity is hazardous

IMO class: UN no.:

Choose containers and volume

Equipment

Qty:	Size:*	Type:*	Weight (lbs):	Volume (cbf):
<input type="text"/>	40'	Standard	<input type="text"/>	<input type="text"/>

+ Compare with other type of equipment...

Choose ports

Route

Service from: Container yard Store door

From:*

To:*

Service to: Container yard Store door

Receipt date:

+ Compare with alternative route...

Overseas Transportation

Location	Arrival	Departure
Qingdao Qianwan Container Co Ltd, CN		7/18/2006 20:00
Los Angeles P400, CA, US	7/31/2006 18:00	8/2/2006 18:00
Long Beach Ictf, CA, US	8/3/2006 18:00	8/3/2006 18:00
Council Bluff Uprrr Ramp, IA, US	8/11/2006 20:00	8/11/2006 20:00
Rail Intermodal Specialists, NE, US	8/11/2006 21:00	

Transit time (25 days) & route.

All costs occurred during the transportation and two ports.

Charge type	Type	Local currency	USD
» Basic Ocean Freight (BAS)	Tariff	2,600.00 USD	2,600.00
» Inland Haulage Import (IHI)	Tariff	1,685.00 USD	1,685.00
» Alameda Corridor Rail Surcharge (ACC)	Tariff	34.00 USD	34
» Bunker Adjustment Factor (BAF)	Tariff	680.00 USD	680
» Chassis Usage (CCH)	Tariff	60.00 USD	60
» Handling Charge - Destination (DHC)	Tariff	600.00 USD	600
» Equipment Management Fee (EMF)	Tariff	50.00 CNY	6.23
» Export Service Charge (EXP)	Tariff	400.00 CNY	49.85
» Intermodal Fuel Surcharge (FUS)	Tariff	125.00 USD	125
» Handling Charge - Origin (OHC)	Tariff	560.00 CNY	69.78
» Peak Season Surcharge (PSS)	Tariff	400.00 USD	400
» Port Dues (PTD)	Tariff	165.00 CNY	20.56
» Carrier Security Charge (SER)	Tariff	6.00 USD	6
» Documentation Fee - Origin (ODF)	Tariff	125.00 CNY	15.58
Total			6,352.00

Overseas Transportation

- Export city: Qingdao, China.
- Product: Shoes (Nike has production center in Qingdao)
- Import cities: the seven DCs.

Location	Costs	Transit time
Atlanta, GA	\$6,376	30
Houston, TX	\$6,317	20
Memphis, TN-AR-MS	\$6,566	21
Miami, FL	\$5,592	27
Norfolk-Virginia	\$5,590	30
Omaha, NE-IA	\$6,352	25
San Diego, CA	\$4,874	16

Mean cost: \$5,952; Mean transit time: 24 days.

Conclusion and next step

- Conclusion:
 - Omaha performances good from facility costs view, but average for replenishment (China as exporter).
- Next step:
 - Define other products and exporters for each 13 category and review the replenishment cost comparison again.
 - Start to do research on outbound transportation (DC to customers) and compare the outbound costs.
 - Using SAILS software with those new updated data to re-run the baseline model to see the changes.
 - Domestic distribution (Plants and suppliers located in USA).