



Everest Holdings

Logistics

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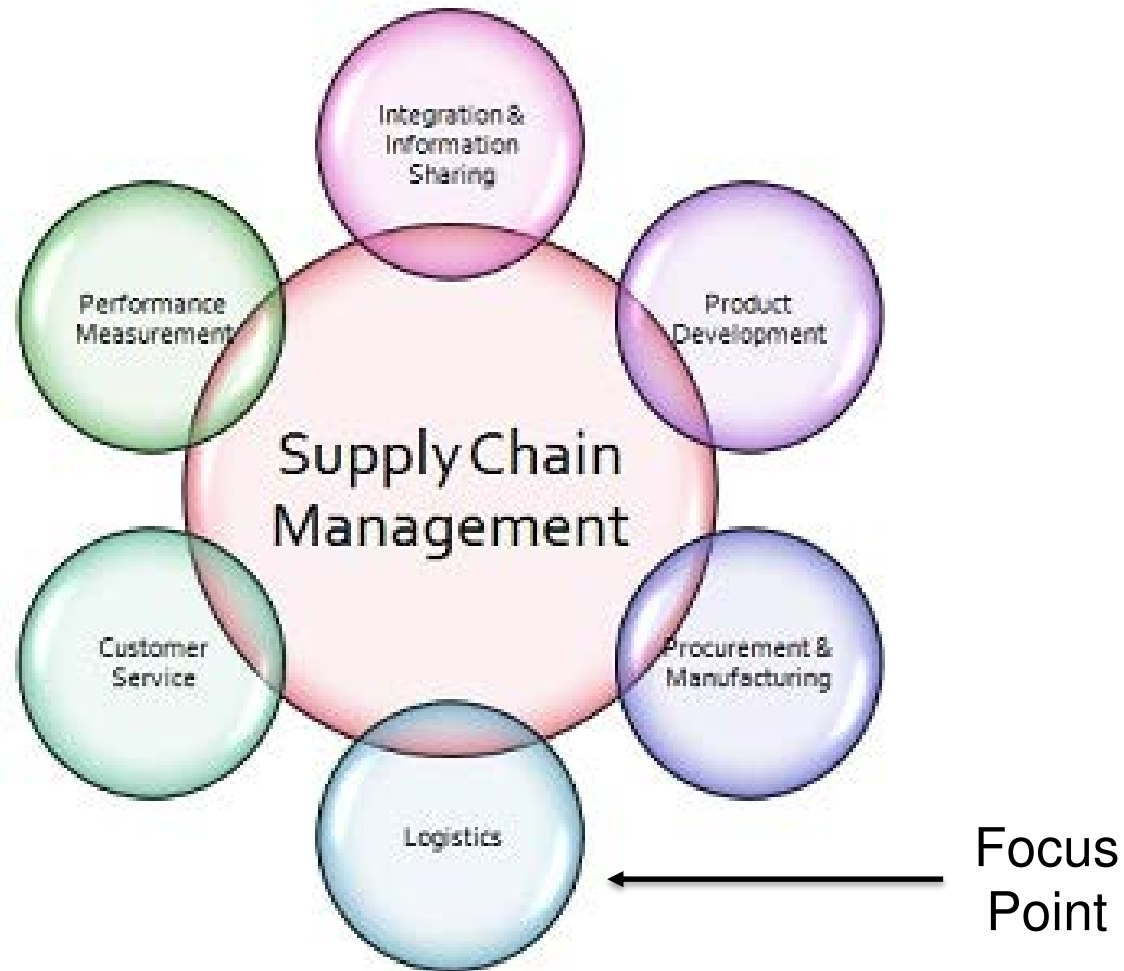
Terms

- SUPPLY CHAIN – All the activities, associated with the sourcing, procurement, conversion and logistics, comes under supply chain
- LOGISTICS – The process of integrating the movement and maintenance of goods in and out of organizations. Logistics is just a small part of the overall supply chain. Can be further described as the management of inventory in motion and at rest
- OUTBOUND LOGISTICS – The activities which are concerned with the collection, maintenance and distribution or delivery to the final consumer
- THIRD PARTY LOGISTICS [3PL] – A companies use of third-party businesses to outsource elements of the distribution and fulfillment services. [90% of all Fourtune100 companies use some form of 3PL services

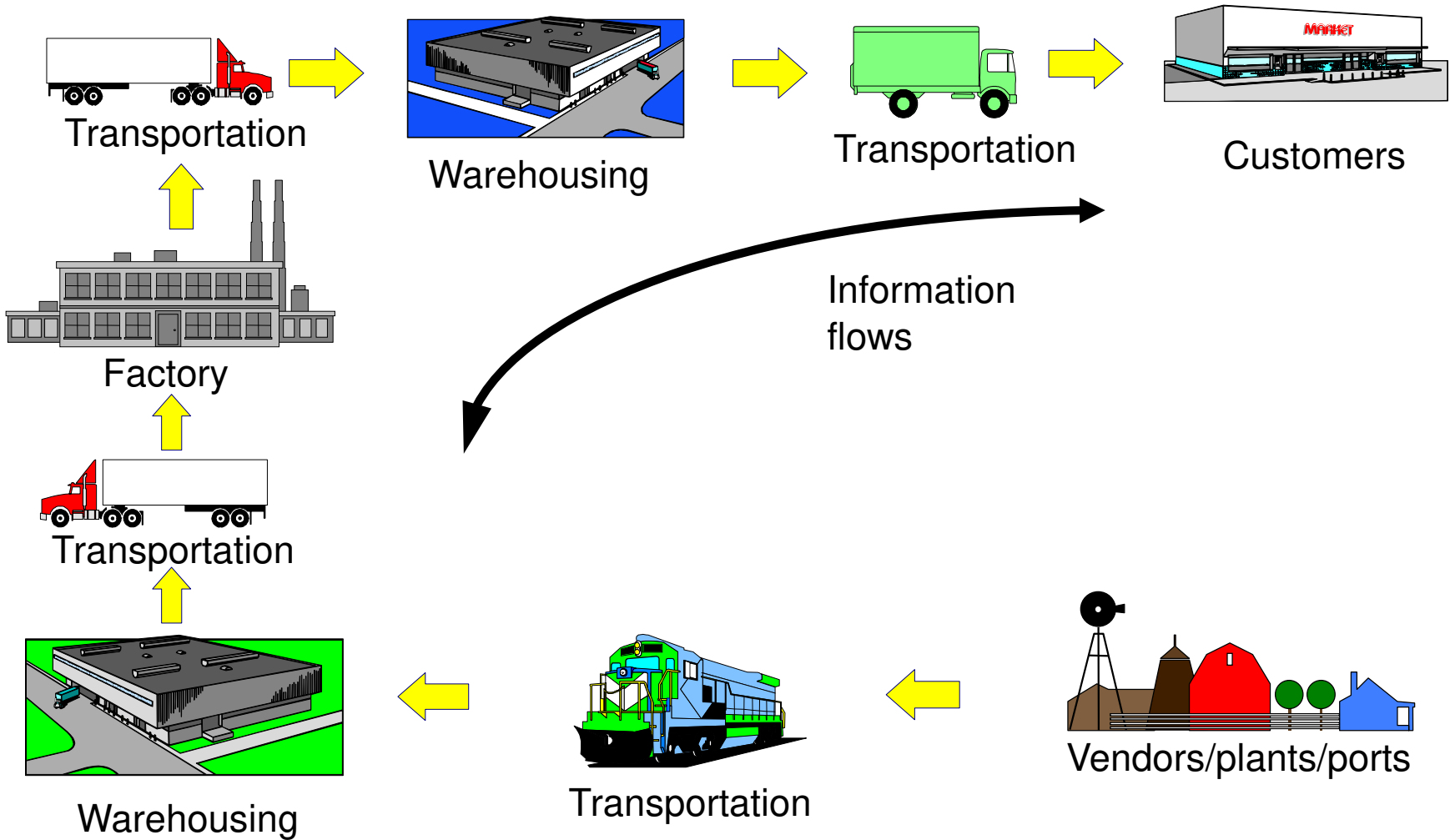
Terms

- ORDER FULFILLMENT – In the most general sense the complete process from point of sale inquiry to delivery of products to the customer and the processing of returns i.e. how a firm responds the customer orders
- LAST MILE - Last mile logistics refers to the final step of the delivery process from a distribution cent or facility to the end user. Actual distance can range from a few blocks to 100 miles. Last mile can account for 20-30% of a shipments total cost
- JUST IN TIME [JIT] – Demand driven inventory system in which materials are delivered just when needed, neither sooner or later. The objective is to eliminate product inventories from supply chain

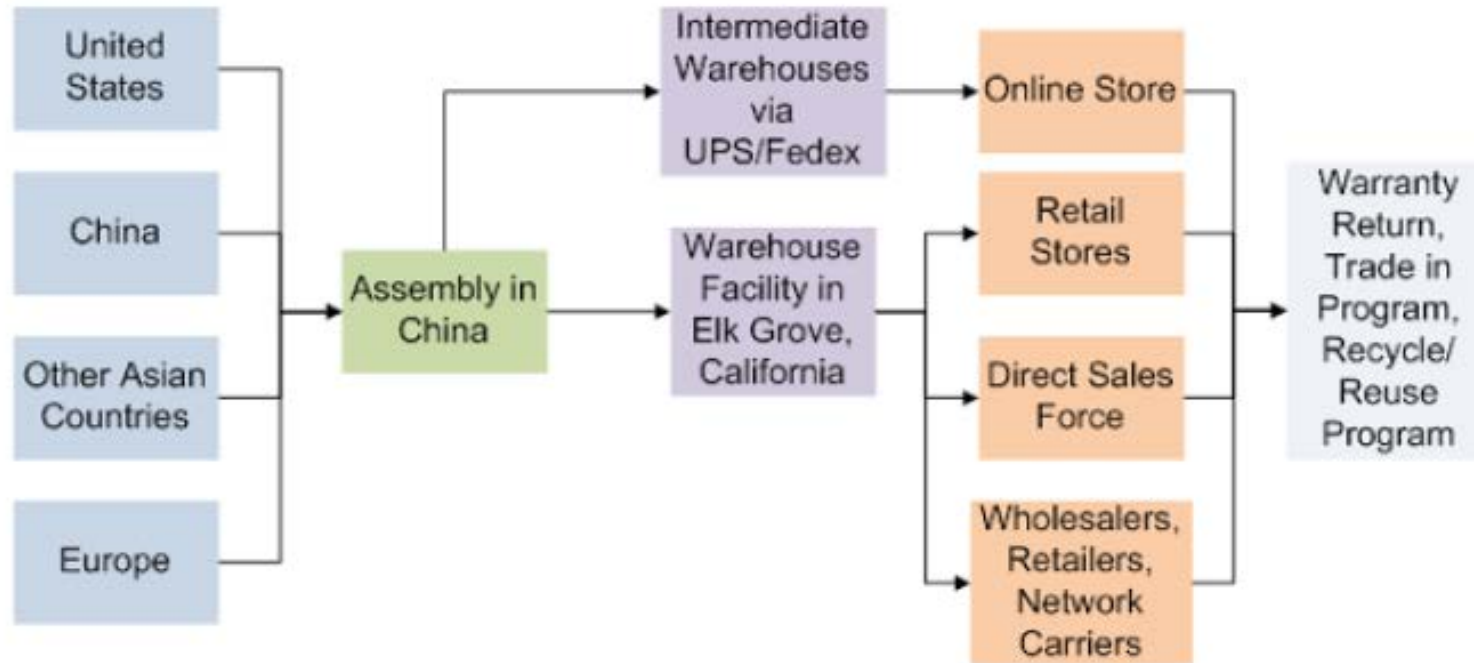
Supply Chain Management



Supply Chain Overview



Apple Inc. – SCM Model



Apple Global Suppliers



Apple Global Suppliers



349	China	11	Vietnam	2	Brazil
139	Japan	7	Mexico	2	Costa Rica
60	USA	6	Indonesia	2	Austria
42	Taiwan	6	Israel	2	Netherlands
32	South Korea	5	France	1	Canada
21	Malaysia	5	Czech Republic	1	Portugal
24	Philippines	3	Belgium	1	Spain
21	Thailand	3	Italy	1	Morocco
17	Singapore	3	Ireland	1	Puerto Rico
13	Germany	3	UK	1	Malta
				1	Hungary

Could the US do it?



Biscuit and Tea

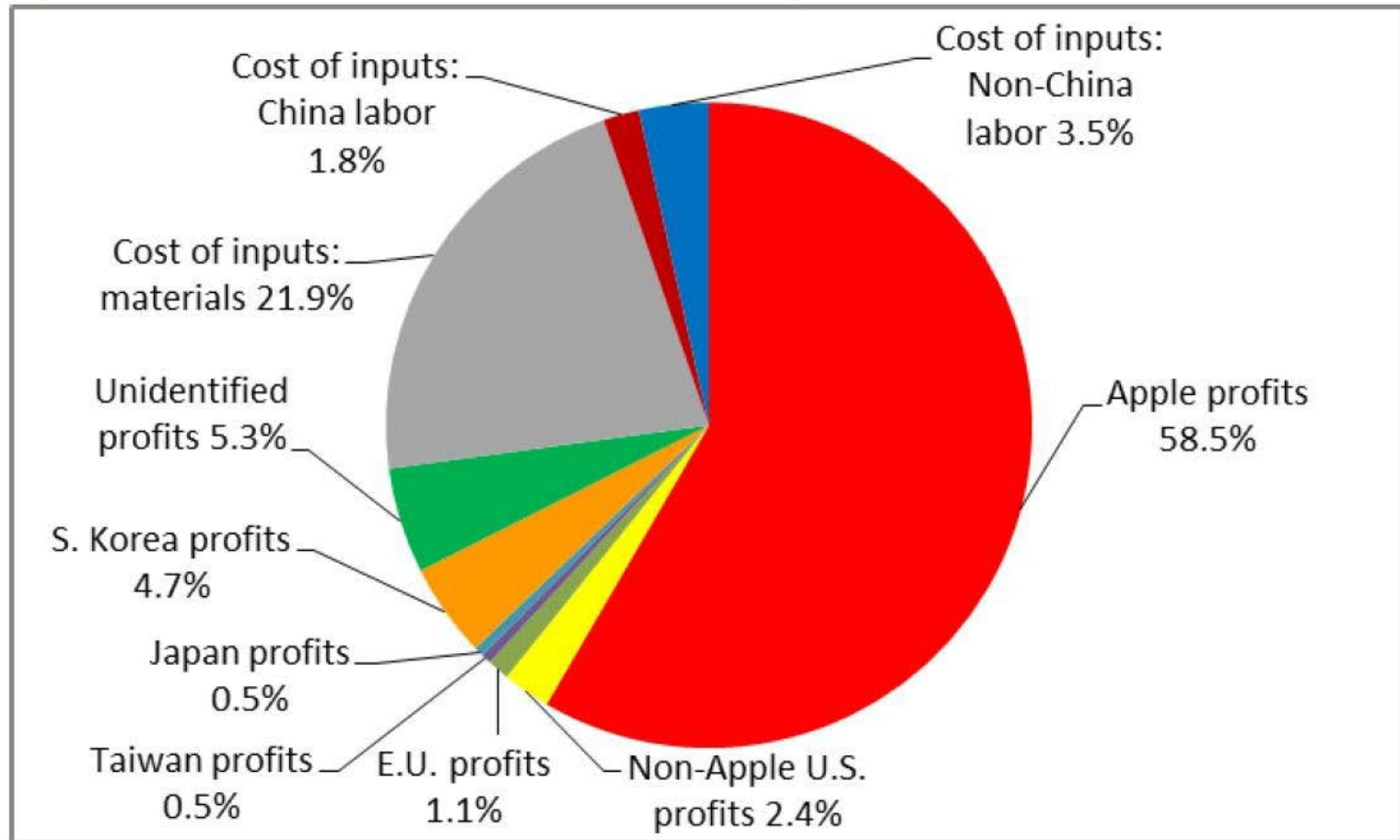
In 2007 Steve Jobs decided that he wanted a glass screen for the iPhone a few weeks before launching.

American suppliers said the deadline was impossible. In China, a factory constructed a dormitory even before signing a contract so its employees could work 12-hour shifts.

When the deal was sealed, 8,000 workers were roused from sleep, given biscuit and tea, and they started fitting glass screens into the iPhone to produce 10,000 iPhones a day.

iPhone – Distribution of Value

Figure 1. Distribution of value for iPhone, 2010



Amazon

- Amazon is the ultimate consignment operator
- Apple and Amazon both only have a handful of products; however, Apple has 156 vendors and Amazon has over 3 million suppliers
- Apple has one company owned U.S. warehouse, where Amazon has over 350 U.S. warehouses (totaling over 125 million SF)
- During the holiday rush, some Amazon warehouses ship more than a million items a day
- Amazon is close to capturing half of all online retail spending and is expected to sell 12.6 billion items in 2020



Under Construction – Phoenix Industrial

Under Construction

Building Address	City	Building Name	Type	Submarket	RBA	Delivery
317 S. 48th Street	Phoenix	Hub 317	Warehouse/Distribution	Airport	109,606	Q3 2018
2801 S. 36th Street	Phoenix	Runbeck	Warehouse/Distribution	Airport	47,500	Q3 2018
1900 E. Riverview Dr.	Phoenix	Midstate Mechanical	Manufacturing	Airport	33,578	Q3 2018
4600 E Cotton Gin Loop	Phoenix	PowerHouse Hoops	Warehouse/Distribution	Airport	26,400	Q3 2018
PV/303 - Bldg. B	Goodyear	PV/303	Warehouse/Distribution	Northwest Ind	640,000	Q2 2018
4455 N. Cotton Lane	Goodyear	Ball Manufacturing	Warehouse/Distribution	Northwest Ind	490,000	Q3 2018
NE Sweetwater Ave & 137th Ave.	Goodyear	Trimaco	Manufacturing	Northwest Ind	275,000	Q4 2018
875 E. Covey Ln., - Bldg. A	Phoenix	Spectrum Ridge II	Warehouse/Distribution	Northwest Ind	19,139	Q2 2018
21105 N. 8th Way - Bldg B	Phoenix	Spectrum Ridge II	Warehouse/Distribution	Northwest Ind	17,373	Q2 2018
925 E. Covey Lane	Phoenix	Saliba's	Warehouse/Distribution	Northwest Ind	30,000	Q2 2018
2323 W. Behrend Drive	Phoenix	Freeway Corporate	Warehouse/Distribution	Northwest Ind	22,356	Q4 2018
22405 N. 23rd Avenue	Phoenix	Mygrant Glass	Warehouse/Distribution	Northwest Ind	100,000	Q4 2018
2355 W. Chandler Blvd.	Chandler	Microchip Technology	Manufacturing	Southeast Ind	265,875	Q4 2018
NEC Arizona Ave. & Palomino Dr.	Chandler	Turbo Resources	Warehouse/Distribution	Southeast Ind	253,116	Q2 2018
NE Elliot Rd & Ellsworth Road	Mesa	Niagara Water	Manufacturing	Southeast Ind	450,000	Q2 2018
3115 N. Higley Road	Mesa	Longbow Gateway One	Warehouse/Distribution	Southeast Ind	147,672	Q2 2018
3110 N. Greenfield Rd.	Mesa	Falcon Field Business Center	Warehouse/Distribution	Southeast Ind	97,462	Q2 2018
13303 S. Ellsworth Road	Gilbert	EdgeCore	Data Center	Southeast Ind	180,000	Q4 2018
Lincoln 40 Logistics	Goodyear	Lincoln 40 Logistics	Warehouse/Distribution	Southwest Ind	901,700	Q2 2018
Airport Gateway at Goodyear	Goodyear	chewy.com	Warehouse/Distribution	Southwest Ind	800,000	Q2 2018
1250 S. 71st Avenue	Phoenix	Liberty Logistics Ctr. II	Warehouse/Distribution	Southwest Ind	280,280	Q3 2018
8181 W. Roosevelt Street	Phoenix	TEN	Warehouse/Distribution	Southwest Ind	1,100,000	Q3 2018
6000 W. Van Buren Street	Phoenix	10 West	Warehouse/Distribution	Southwest Ind	568,340	Q2 2018
8681 W. Washington Street	Phoenix	XPO Logistics	Warehouse/Distribution	Southwest Ind	128,191	Q2 2018
9494 W. Buckeye Road	Tolleson	Tolleson 94	Warehouse/Distribution	Southwest Ind	185,094	Q2 2018
200 N. 99th Avenue	Tolleson	Tolleson Logistics Center	Warehouse/Distribution	Southwest Ind	329,400	Q4 2018
Total					7,498,082	

¼ mill – ½ mill SF

½ mill SF Plus

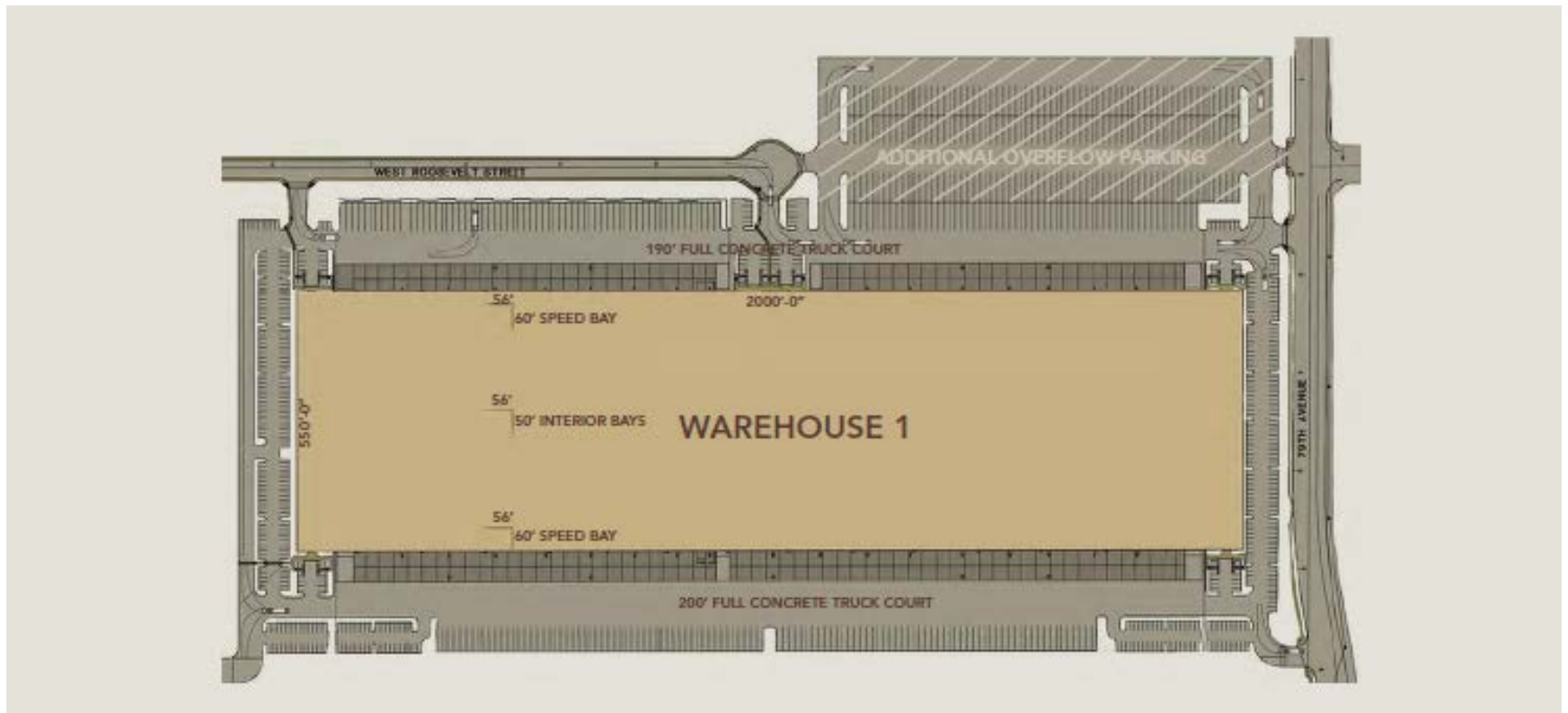
Warehouses - Design Features

- As the costs of real estate in urban areas increases, clear height becomes the trend
- Multi-level robotic pickers are being utilized to facilitate product retrieval in high ceiling warehouses



Warehouses - Design Features

- Where affordable land is available, cross docks will become the norm for facilitating just-in-time deliveries
- Newer buildings are offering more employee parking



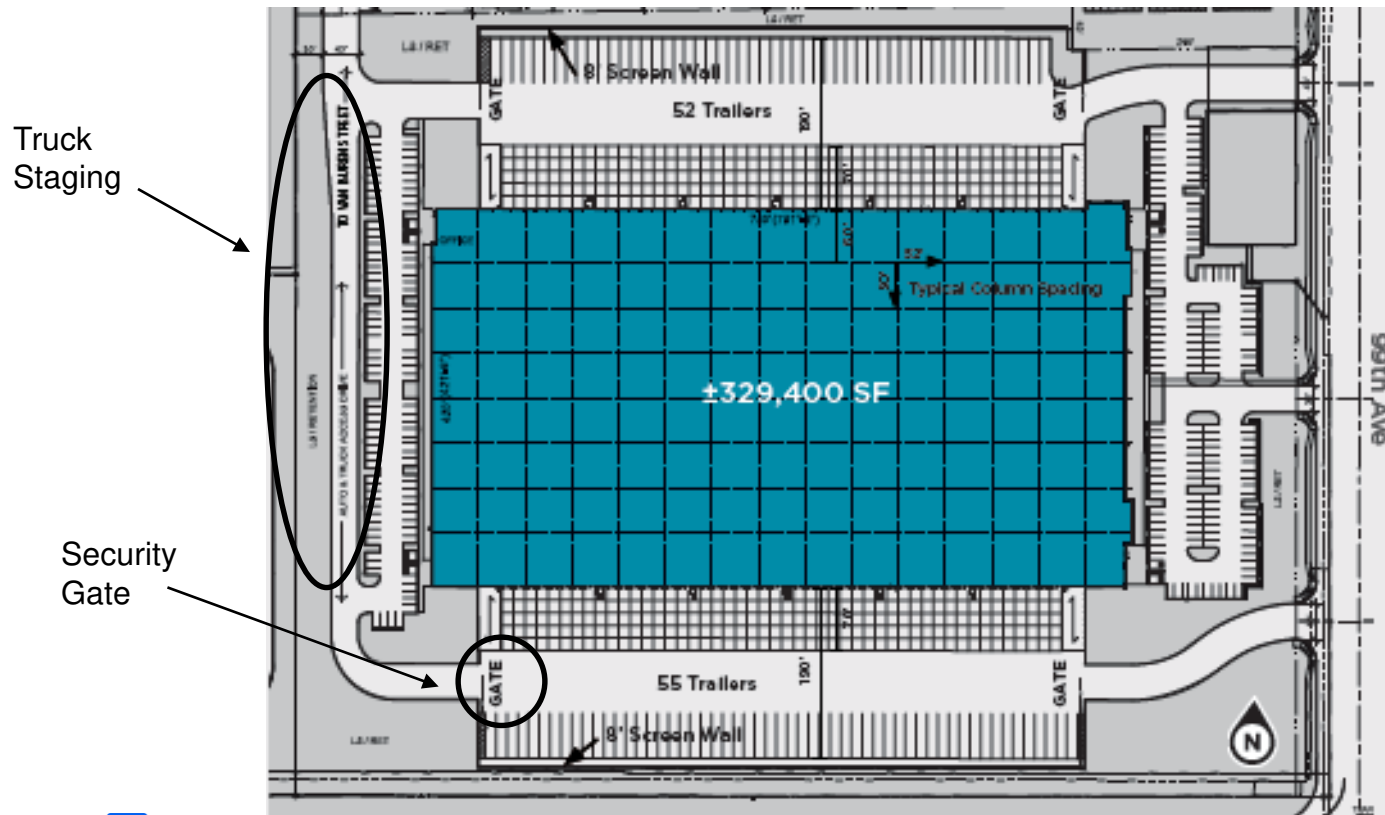
Warehouses - Design Features

- Buildings are becoming less deep for faster turns



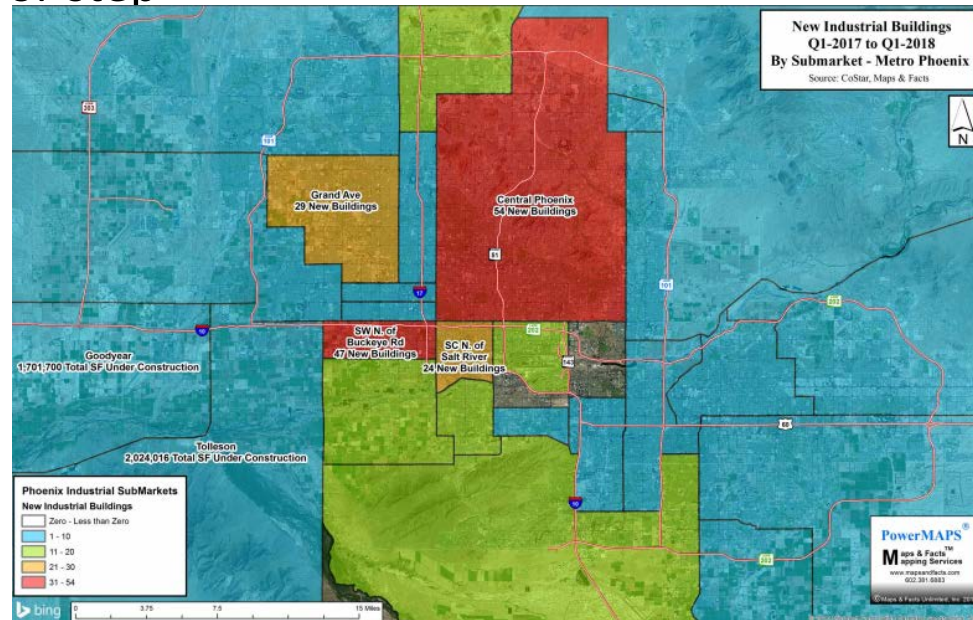
Design Features

- More flexible buildings incorporating returns and will/call lockers
- Warehouses are employing more dock doors for smaller delivery trucks
- Warehouses are becoming compounds with high security

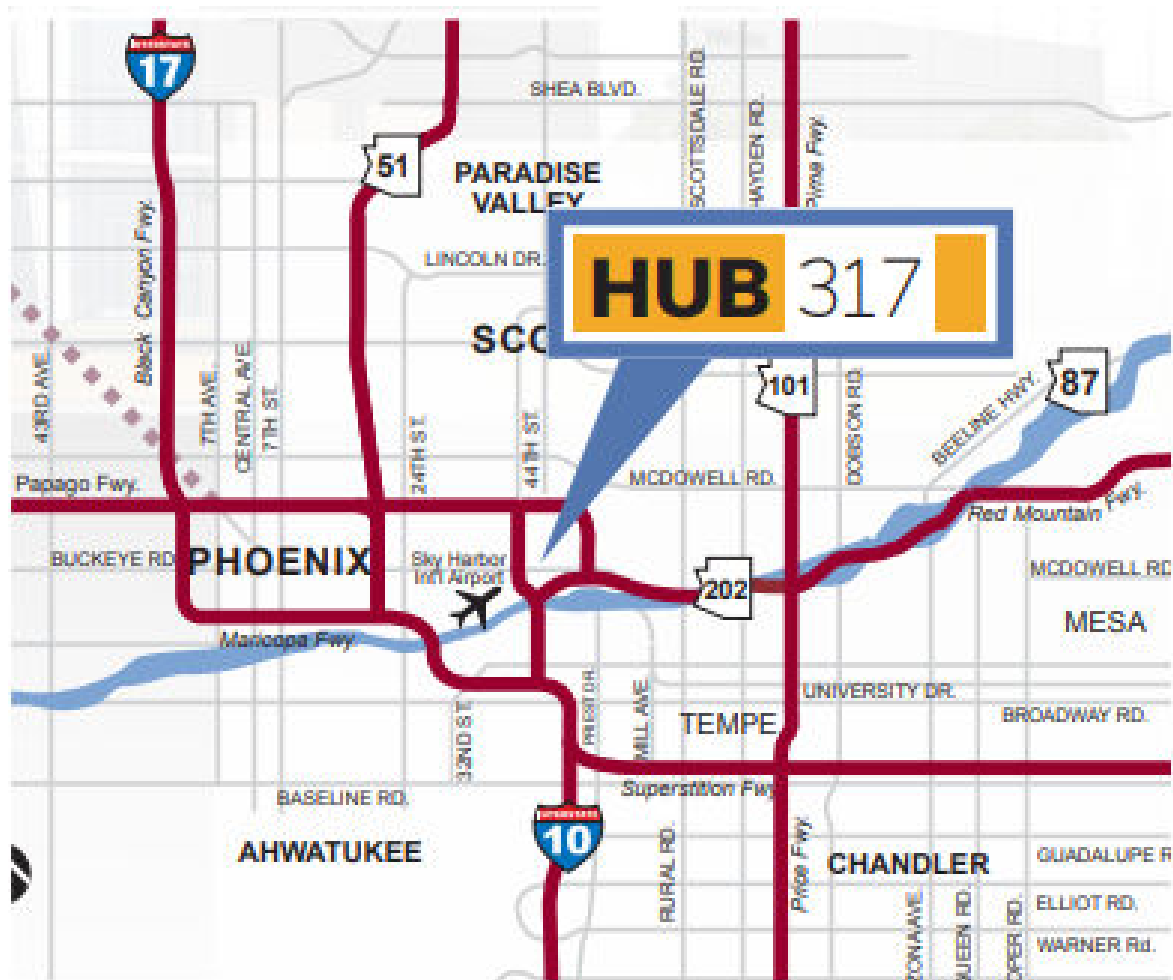


Last Mile

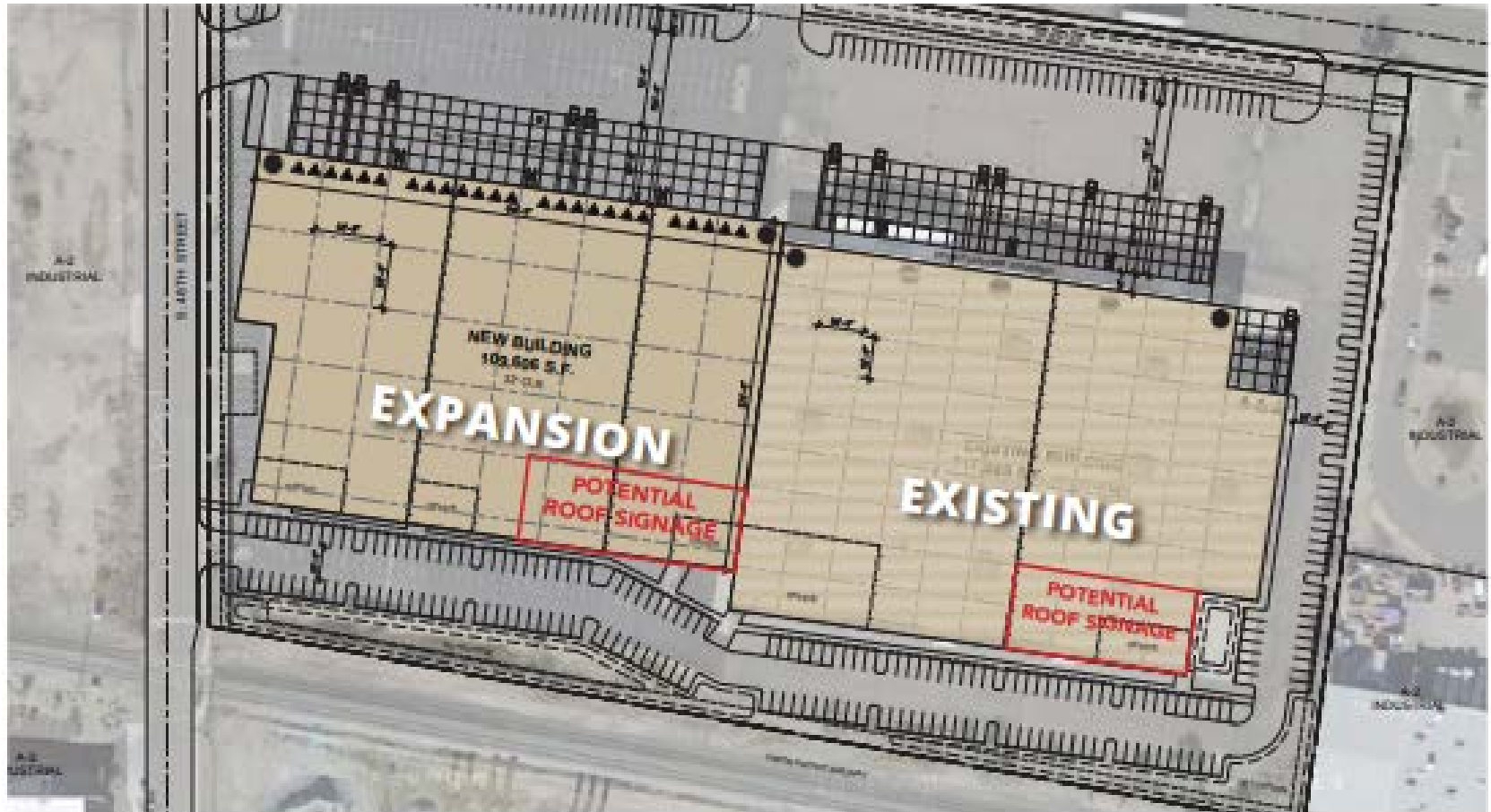
- The “last mile” phase accounts for upwards of 30% of the total cost of delivery
- Thus, warehouses are moving closer to population (central areas)
- Amazon receives 25 orders every second (over a billion orders a year), but processing them is not the problem
- The true challenge is transporting every unique order directly to the customer’s door step



Last Mile – Central Warehouses are Desirable



Last Mile – Warehouses in Central Locations are Expanding



(Converted Sam's Club)

Last Mile Delivery

- Current and Future Forms of Last Mile Logistics:
 - In-house deliveries
 - Public smart lockers
 - Stores
 - Third Party
 - UPS
 - FEDEX
 - USPS
 - Crowd Sourcing



Ridesharing Services Delivering



Artificial Intelligence



Artificial Intelligence

- Growth has and will continue to be exponential (i.e. original iPhone vs. iPhone X)
- As sensors and machine to machine communications are implemented, the entire supply chain will adopt the automated processes
 - Pick-To-Light Systems: visual displays positioned on a storage slot to show where items are and how many there are
 - RFID tagging: radio signaling in tag signals, which communicates where products should go
- Management will make strategic decisions while freight transportation will mainly be handled by automation
- Since mankind has been on earth, 90% of all data collected has been collected in the last two years (Bloomberg Radio)
- Amazon's tech department must prove the elimination of five jobs to hire one new employee (Jim Dickson)

Robots Run the Warehouse

- Off-shore production will be reduced as manual labor in the supply chain is replaced by automation, neutralizing many of the benefits of off-shoring
- Alibaba (world's largest retailer), ramped up robotic labor last year in one of their warehouses and it reduced the human workforce by 70%
- Through the purchase of "Kiva Robotics", Amazon now has more than 100,000 robots operating in their fulfillment centers around the world



The Dawn of the Automated Warehouse

- Future warehouses may be completely dark boxes because robots will navigate with aid from lasers, radars and other non-visual guidance systems



The Dawn of the Automated Warehouse

- Right now, systems bring goods to a picker requiring specialized racking and conveyor systems
- The real breakthrough will be when robots can pick orders from conventional racking



Autonomous Trucks, Trains, and Drones

- Drivers will become less like drivers and more like attendants
- A rail system being developed in Texas plans to move containers on electric-powered, driverless shuttles above the median of major highways, resulting in less truck drivers on the road
- APP based hauling – eliminates dead-heading



“The adoption of driverless trucks is likely to reduce demand for drivers at a faster rate than a supply shortage would emerge.”

Source: Conclusion drawn by a multi-agency European study into autonomous trucks - As reported in Fleet Owner.

