

# The Health and Personal Care Logistics Conference, Inc.



## When Air Freight Capacity is Constrained, What's a Shipper to do?

HPCLC Service Provider Council Philadelphia  
March 28, 2018



Nick Basta, Editor in Chief, Managing  
Partner *Pharmaceutical Commerce*  
Magazine



Brandon Fried, Executive Director of the Air  
Forwarder Association



Frank Sumerler, Senior VP Air Freight  
Western Europe Kuehne + Nagel

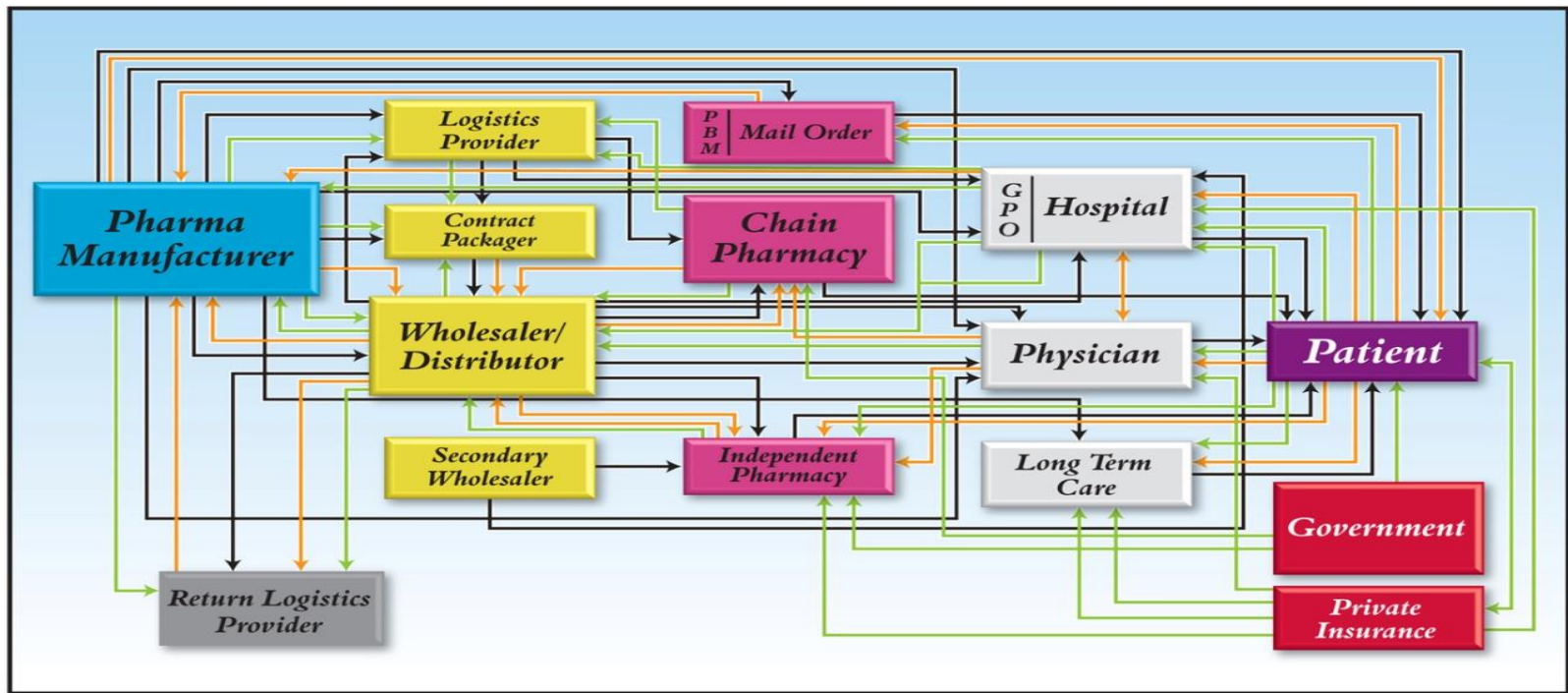


**Lufthansa Cargo**  
Networking the world.

Sebastian Kunze, Head of Revenue and  
RFS Management USA, Canada & Mexico



# The BioPharma Supply Chain with its 2-way Flow of 1) Products, 2) Information and 3) Money



Three 2-Way Flows:

1) Products (Black)

2) Information (Orange)

3) Money (Green)



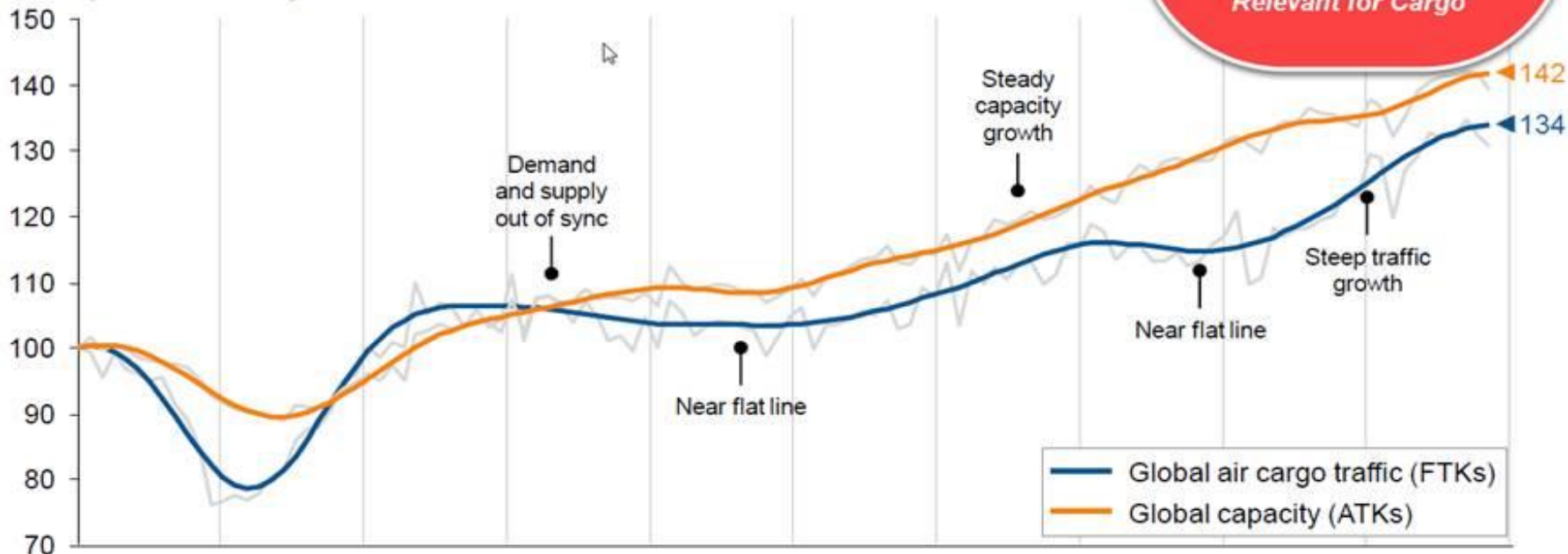
## 2017 demand growth outperforms capacity growth

In seven of the last nine years capacity growth (ATK) has outpaced demand (FTK); however demand growth has significantly exceeded capacity growth in 2017<sup>1</sup>

### Capacity picture is actually worse than it appears

Global air cargo traffic (FTK) and supply (ATK), 2008 – October 2017

Index (Jan 2008 = 100)



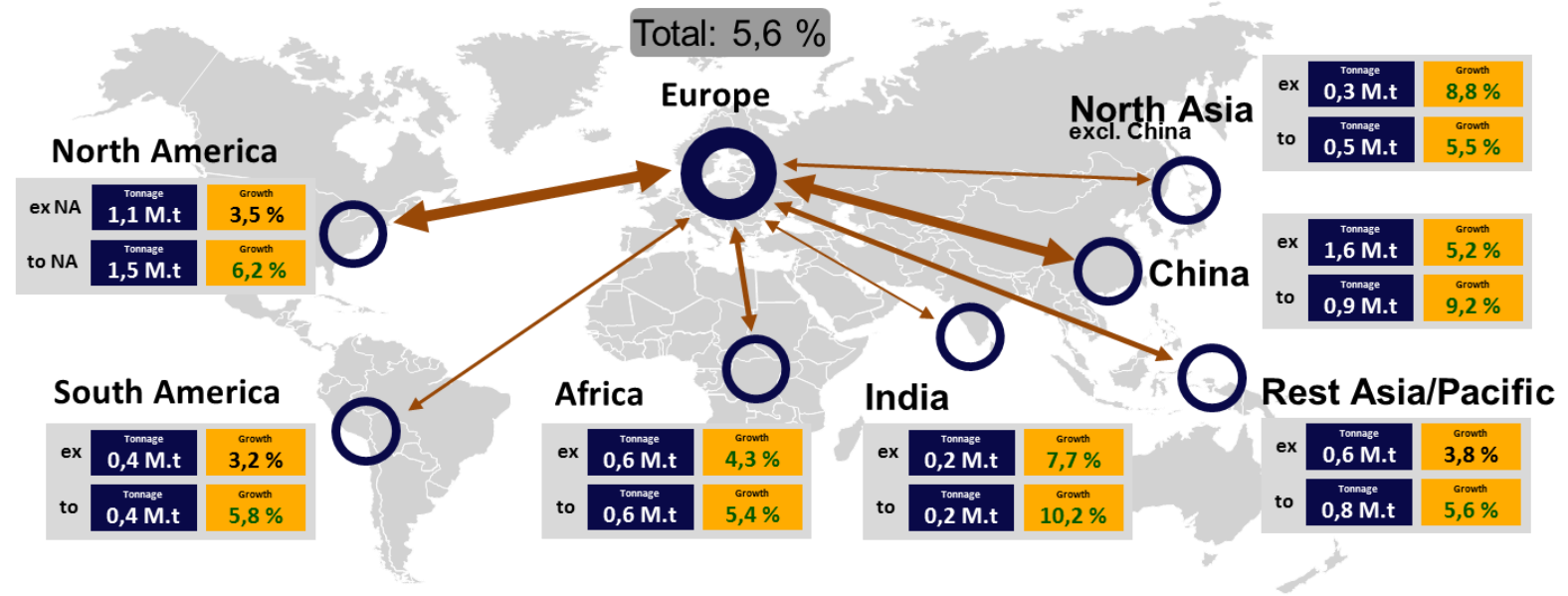
ATK represents worldwide Capacity including Belly and Tourist Destinations that are Less/Not Relevant for Cargo

YoY (%)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 <sup>1</sup>
FTK	-3%	-9%	23%	1%	-1%	2%	6%	3%	4%	11%
ATK	1%	-7%	10%	6%	2%	3%	6%	7%	5%	4%



# Imbalanced traffic flows lead to different perceptions about capacity crunch

Air freight growth ex/to Europe (tonnage; Ø p.a. in %) 2017 vs. 2016



**Air freight volume AWT (2016)**

Ø Market growth 2017 vs. 2016

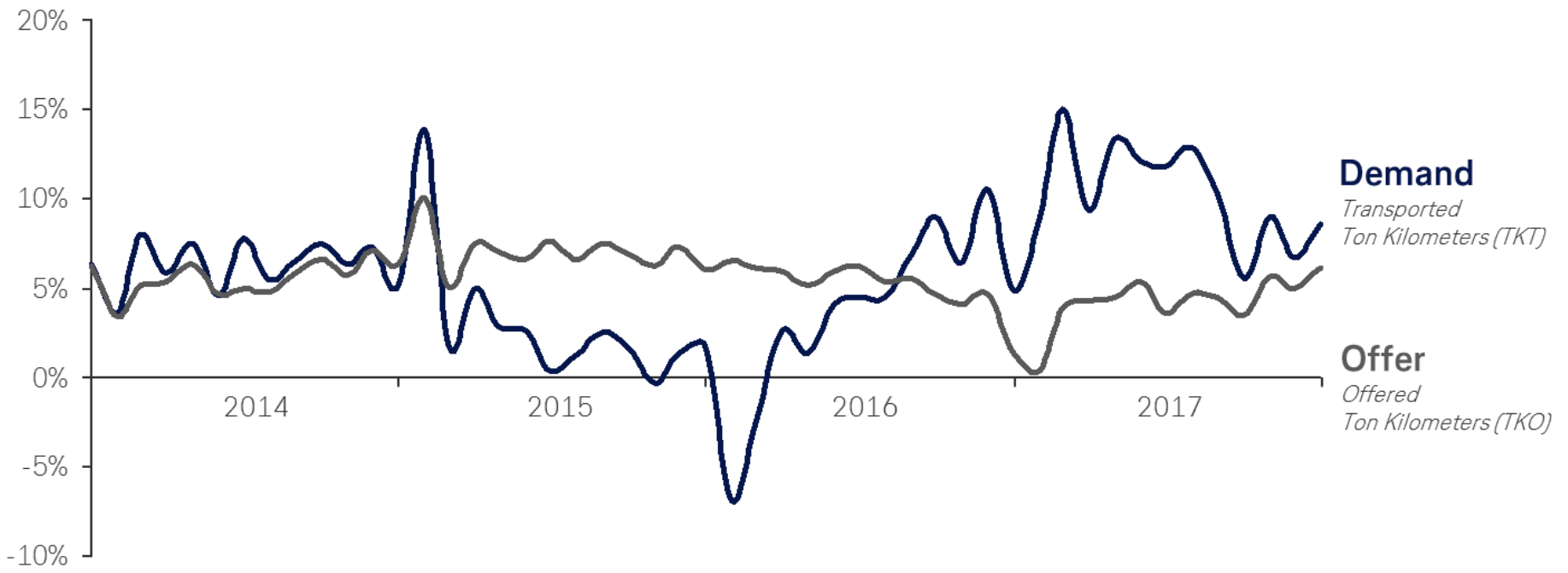
- % Ø market growth p.a. > 4
- % Ø market growth p.a. 3 - 4
- % Ø market growth p.a. < 3

Arrow width marks size of market 2017



# Worldwide airfreight demand outpaced supply since end of 2016

TKO&TKT to/from worldwide | w/o  
domestics (vs. PYM in %)



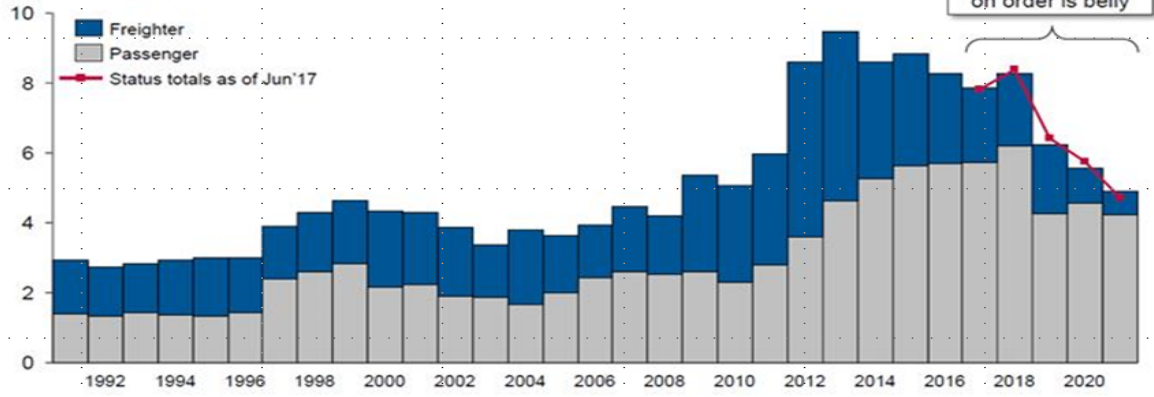
Source: IATA Monthly Statistics January 2018



# Reduced “new freighter” capacity coming to market next 3 years

Capacity growth will be driven by wide body passenger aircraft orders

Factory built freighter & belly<sup>1</sup> capacity on firm order  
Thousand tonnes



- Freighter deliveries peaked in 2012
  - Belly capacity on order is expected to be ~5,000 tonnes/year - 76% of expected deliveries during next 5 years
- Majority of Boeing Freighter Production for the next 3 years is for Integrators

<sup>1</sup>Wide body passenger aircraft (incl. mixed passenger/freight combinations); only firm OEM orders considered; years represent build years  
Source: Ascend Fleet Database; Seabury Consulting analysis (September 2017)



## When Air Freight is Constrained, this is what a shipper can do!

HPCLC shippers, forwarders, and airlines at the table to address forecasting and demand planning.

HPCLC shippers working with forwarders, airlines to improve freight flows.





# LESSONS FROM PUERTO RICO

Disaster Recovery, Risk Management, and Execution Resilience

**Ocean Port Recovery and Partnering with FEMA**  
Jorge Estevez, VP of Sales, Marketing, and Pricing, Crowley

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# Puerto Rico: Disaster, Aftermath, and Impact



## DISASTER

- Deadliest natural disaster in 85 years in Puerto Rico.
- Maximum sustained windspeed of 175 mph.
- Damage estimates almost \$100 billion (third most costly ever).
- Up to 1,000 fatalities in Puerto Rico alone.

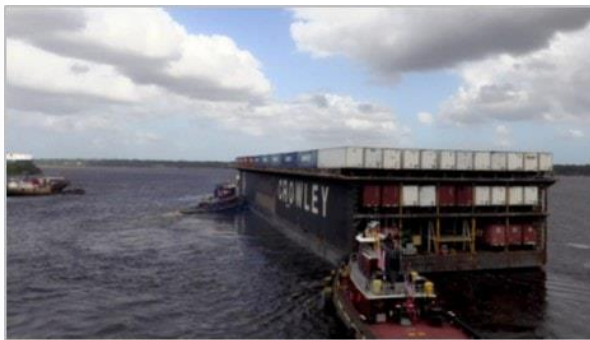
## AFTERMATH

- Puerto Rico's power grid was destroyed, leaving 95% without power.
- Less than half the population had availability to drinking water.
- 95% of the island had no cell service.
- Widespread flooding, building damage, and blocked roads.



## IMPACT

- On-island supply chain was severely disrupted.
- Cargo on incoming vessels was unable to discharge until port reopened days later.
- Cargo at the port was unable to be loaded and transported.
- Ports were at full capacity and became overloaded with containers. <sup>2</sup>



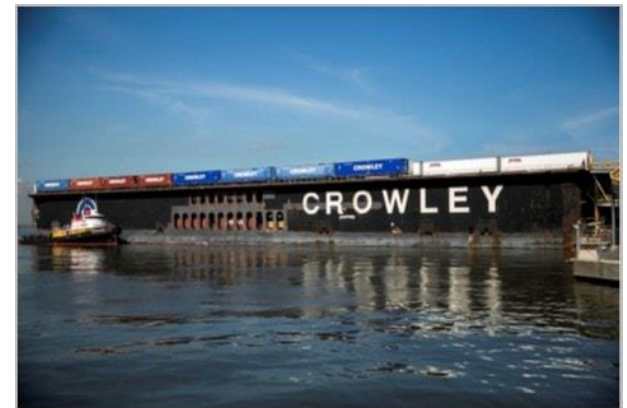
# Crowley Response and Disaster Relief



- First order was to ensure all employees and families were safe.
- Second priority was to assess damages sustained to operational infrastructure.
- As the lead FEMA logistics partner, the primary focus became providing disaster relief to the people of Puerto Rico.

- In the first 100 days after Maria, despite many logistical and environmental obstacles, Crowley sent 93 vessels of supplies, aid and commercial goods to Puerto Rico:

- *70 commercial sailings from U.S. mainland*
- *12 sailings dedicated to FEMA relief cargo*
- *11 barges of power poles*
- *16,015 FEMA loads (TEU).*
- *59,417 commercial loads (TEU).*
- *Vessel capacity increase of 30%*
- *Equipment increase of over 6,000 pieces*



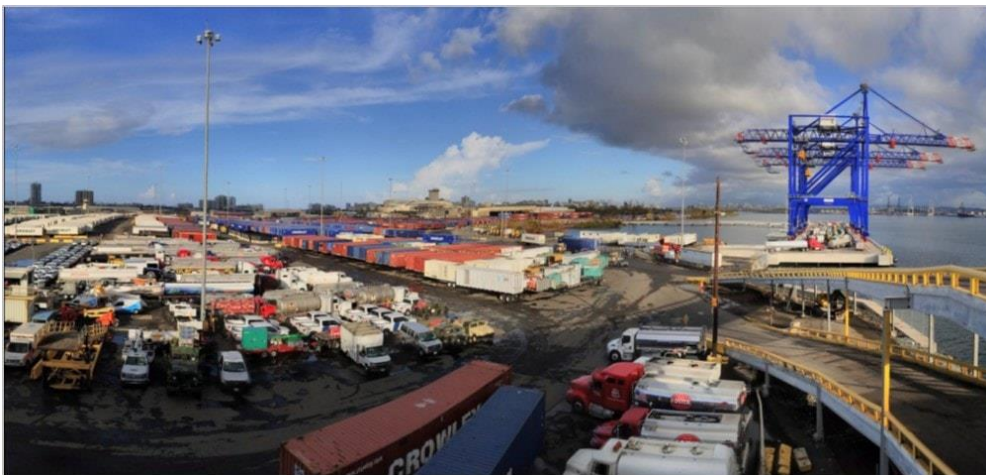
# Challenges Faced and Obstacles Overcome

## PEOPLE

- Employees experienced extreme difficulties getting to port due to damaged roads.
- Even dealing with personal losses, including lack of electricity or running water in their homes, people were at work ensuring the flow of cargo to the island never stopped.
- Employees able to get to port were working 15-18 hour shifts.

## TERMINAL

- Crowley had over 2,200 containers discharging weekly southbound, but only 100-200 loading back northbound, leading to extreme terminal congestion.
- Due to port congestion, Crowley set up satellite yards for overflow of cargo outside of port.



## TRUCKING

- Trucks were unable to get to and from ports to deliver cargo due to road conditions.
- Fuel shortages intensified the problem.
- Slow turn time of equipment caused shortages of chassis.

## EQUIPMENT

- Extreme imbalances of southbound to northbound shipments led to severe shortages of necessary equipment in the US.
- Many customers in Puerto Rico were not able to take their southbound cargo due to damaged warehouses and stores.
- We brought on more than 8,000 new pieces of equipment.

# Crowley Puerto Rico Relief: Moving Forward

Six months post-Hurricane, we have regained routine equipment controls, and Puerto Rico's people continue to recover. The government has shifted focus of many resources from providing food and water to rebuilding infrastructure (power grid and road system), as well as clean-up efforts.



In the current restoration phase, Crowley has transported materials to assist in rebuilding the country's electrical grid, including:

- Over 44,000 power poles out of a planned 70,000
- Over 7,000 transformers
- 482 containers of building materials
- 3,500 pieces of other non-containerized cargo

In 2018, Crowley is introducing two new LNG powered vessels between Jacksonville and San Juan. The first vessel is expected into service this spring, and the second in the second half of 2018.

## The biggest problems faced were:

- Terminal congestion in both the U.S. and Puerto Rico due to southbound shipments unable to get delivered on the island.
- Equipment shortages due to the backlog of shipments in both the U.S. and Puerto Rico, since consignees could not take the cargo and there was little to no equipment returning northbound.
- Once needs were determined, the type of post-hurricane products initially required at times were different from what was in the containers at the terminals.



## Solutions:

- Create awareness among top shippers that it is NOT business as usual.
- Ensure that consignees can take delivery of cargo before containers are loaded in the U.S.

# Transportation Capacity

Health and Personal Care Logistics Conference  
Philadelphia  
March 28, 2018



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# Truckload Shipments

*ATA Truckload Index*



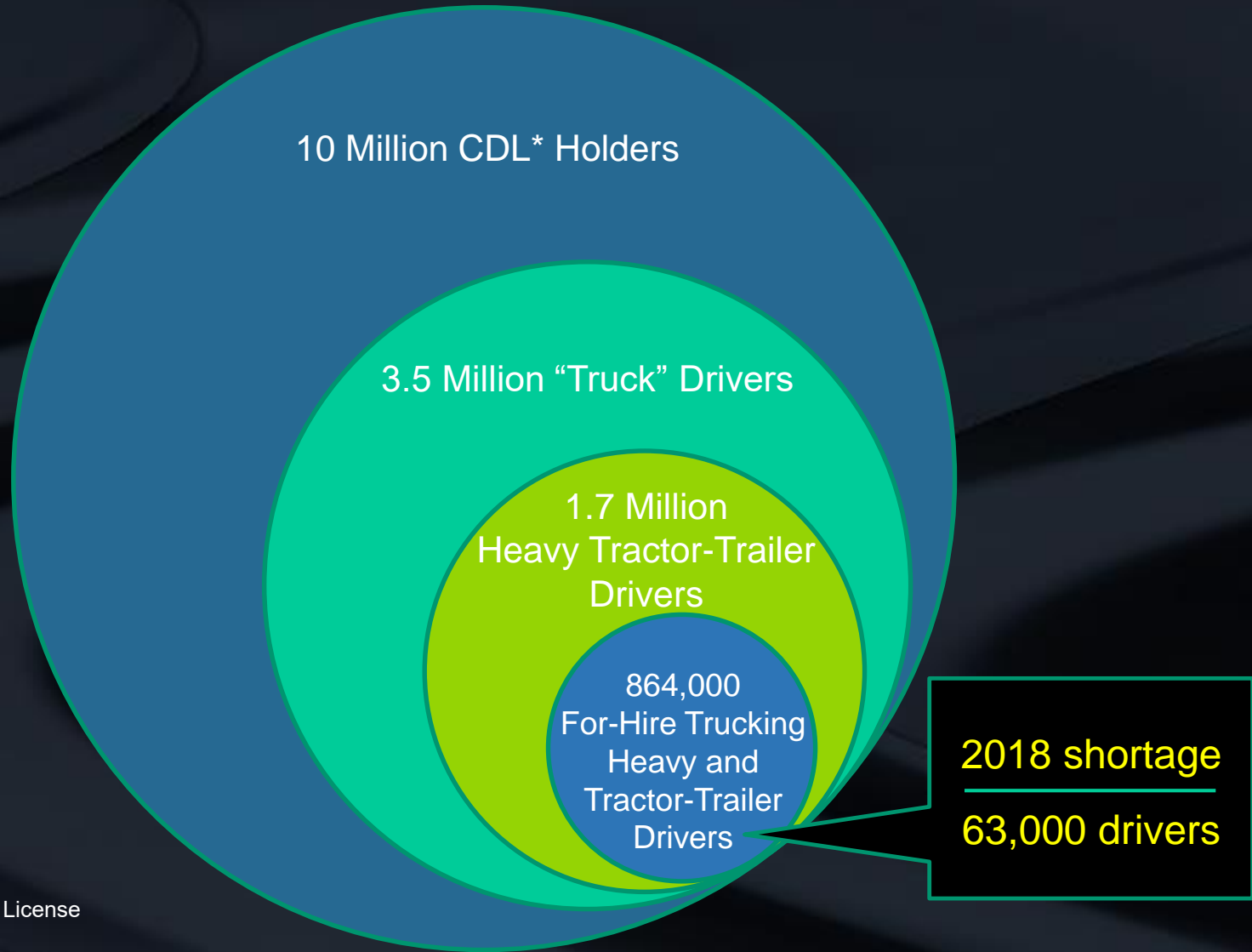
Includes Dry Van, Flatbed, Temp Controlled, and Tank Truck

# Truckload Pricing



Includes Dry Van, Flatbed, Temp Controlled, and Tank Truck  
Contract = For-Hire Truckload Average Revenue per Mile plus Fuel Surcharge

# Truck Driver Population

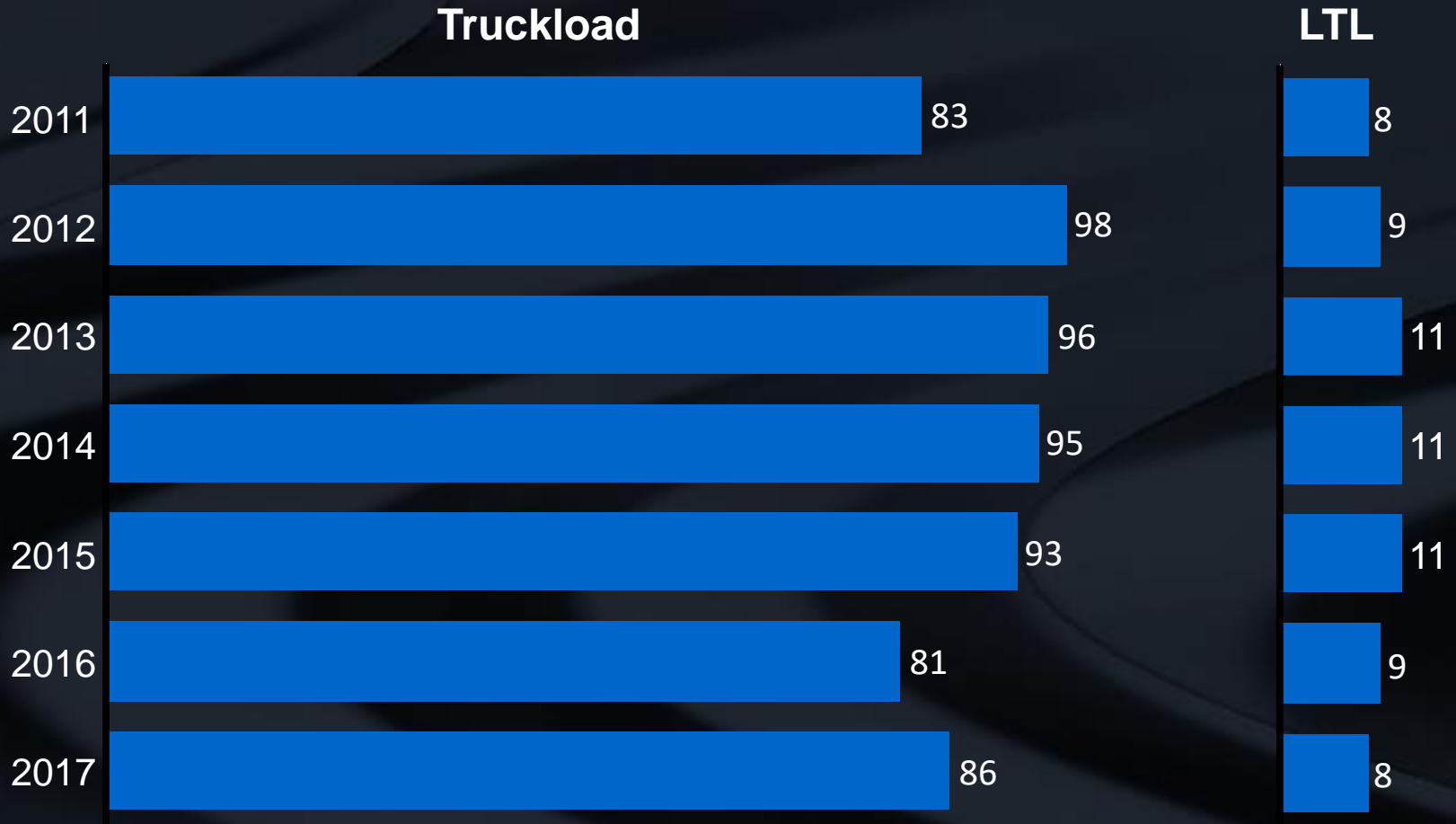


\* Commercial Driver's License

Source: ATA Truck Driver Shortage Analysis (2017)

# Truck Driver Annual Turnover

*Percent*



# Opportunities in Joint Costs

## *Joint cost*

## *Potential actions*

### Advanced notice

- Use a rolling schedule for regular lanes
- Confirm shipments 1 week in advance
- Share plans for large movements and holidays months in advance

### Hours of operation

- Expand operating hours and shipping schedule where feasible
- Facilitate spot-and-hook operations to improve productivity with pre-loads (high volume shippers only)

### Loading and unloading time

- Focus on total cycle time from arrival to discharge
- Identify facilities with best practices and replicate
- Measure throughput on an ongoing basis

### Appointment scheduling

- Use time windows for appointments
- Keep floating workers and space to address delayed shipments

### Facility access

- Provide access to restrooms, cafeteria / vending for drivers
- Standardize security processes to pre-notify and approve access to facilities for drivers



Tuckerco.com



**Jeff Tucker, CTB**

CEO

**Tucker Company Worldwide, Inc.**

800 229-7780

[Jeff.Tucker@tuckerco.com](mailto:Jeff.Tucker@tuckerco.com)

# TRACTOR SIZE: 2012 V. 2018

2/5/18	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>POWER UNITS</b>	342,288	266,910	481,528	378,325	928,420	2,397,471
2/5/12	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>POWER UNITS</b>	209,809	195,234	375,923	326,056	728,441	1,835,463
	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>POWER UNITS % CHANGE, 2018 vs. 2012</b>	63.14%	36.71%	28.09%	16.03%	27.45%	30.62%
<b># Change</b>	+132,479	+71,676	+105,605	+52,269	+199,979	+562,008



# FLEET SIZE: 2012 V. 2018

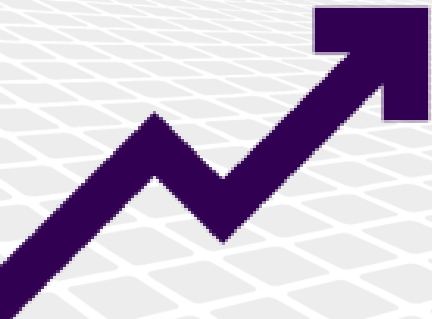
2/5/18	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>FLEET SIZE</b>	183,481	24,140	11,933	1,869	383	223,554
2/5/12	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>FLEET SIZE</b>	109,009	17,460	9,303	1,624	326	141,614
	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>FLEET SIZE % CHANGE, 2018 vs. 2012</b>	68.32%	38.26%	28.27%	15.09%	17.48%	57.86%
<b># Change</b>	+74,472	+6,680	+2,630	+245	+57	+8,194



# GROWTH SNAPSHOT: 2012 V. 2018

	Very Small (1-6)	Small (7-19)	Medium (20-100)	LargeA (101 - 500)	LargeB (501+)	TOTAL
<b>POWER UNITS</b>						
<b>% CHANGE, 2018 vs. 2012</b>	63.14%	36.71%	28.09%	16.03%	27.45%	30.62%
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DELIVERING HEALTHCARE TO THE WORLD



LESSONS FROM PUERTO RICO: DISASTER RECOVERY,  
RISK MANAGEMENT AND EXECUTION RESILIENCE

FROM THE STANDPOINT OF VIEW OF A CERTIFIED LIFESCIENCE STATION

**HPCLC**

Rittenhouse Hotel  
Philadelphia, PA

March 26-28, 2018



# Priorities

## **Priorities and critical activities of a LS Certified Station**

DHL PR followed the BCM model by working collaboratively to evaluate the situation, placing emphasis and priorities on the safety and well-being of all staff and critical aspects of the business.

- Personnel
- Building & Equipment
- Global Network Support
- General Transportation
- IT and Communication

# Pre-Hurricane

- ✓ IMT and BCM initiated 96 hours before event
- ✓ Activation of our third-party recovery company, 72 hrs. before the event.
- ✓ Back-up office notified in advance for all products (DOM, AFR, OFR & Brokerage).
- ✓ Contingency plan reviewed with the Diesel suppliers and Cartage Agents days before event.
- ✓ Supplies of drinking/potable water were obtained to ensure employees had access to it after the hurricane.
- ✓ Protected the building's dock doors, main entrance and cargo by using cartage agent vehicles; relocated cargo to safe areas inside the building
- ✓ Planning ahead for alternate routes if needed.

# Objectives after been impacted by Hurricane Maria

- ✓ Account for all employees and ensure they are safe and assist their personal situations
- ✓ Re-open operation in < 48 hours
- ✓ Ensure basic needs supplied to our employees
- ✓ Provide our employees with Generators so they could have power at home
- ✓ Make sure that after the hurricane we attended to personal needs and supported our employees while they were taking care of our customers

# Achievements

- ✓ Made contact with majority of the employees first to confirm everyone's safety.
- ✓ Re-opened operations <36 hours after event
- ✓ Agreement with local cafeteria to supply food for employees for both work shifts.
- ✓ Agreements with local gas stations to provide priority service to employees (3 Gas stations).
- ✓ Set a Day Care to help employees with child care.
- ✓ Inspected main roads for safe driving and planning ahead for alternate routes if needed.

# Achievements

- ✓ DGF met with government agencies to acquire an exception to the curfew allowing them to be on the roads after 6pm.
- ✓ Arrangements were made to provide generators, gas containers and electrical cords to the SJU staff free of charge.
- ✓ Acquired satellite telephones (4 lines).
- ✓ We, we were able to relocate a Satellite system in less than 10 days in SJU and activated our LYNC Telephony System.

# Additional Actions

- ✓ Immediate agreements for outbound capacity with commercial airlines.
- ✓ Opened work stations for our main customers for satellite operations in DGF facilities.
- ✓ We organized satellite depots and moved significant amounts of active containers to our premises to support immediate needs and provided work stations to our business partner.
- ✓ We organized Charters to support immediate inbound needs, including emergency supplies medication 'like insulin' and other humanitarian relief.
- ✓ Organized Team Drivers and escorts teams to support Pharmaceutical Customer for pick-up and deliveries.

# Lessons learned and future actions

- To increase our diesel supplies from 5-7 days to 7-10 days
- To make formal arrangement with minimum 3 providers to supply employees meals.
- To make formal arrangements with 4 gas stations for priority services to DHL employees.
- Formal arrangements between customers and with active container providers for emergency inventories at DGF building and to set process to act as alternate depot facility if necessary.
- Pre-arrangement for work station set-up for DGF main customers.

# *“How Hurricane Maria Impacted the Transportation of Cargo in Puerto Rico”*



*Impact to the Transportation Sectors: Air, Inland & Lessons Learned...*



Tom Vincent-Vice President

Prime Air Corp / Stevens Global Logistics SJU



# Impact on Air Cargo...

- Major damage to SJU Passenger terminals. \$80M in damages. 1.1M sq.ft. of roofing is damaged.
- Three out of four Air Traffic Control radars in PR were out of service. ATC was done out of MIA, while emergency military radars were installed in Aguadilla and others.
- SJU Airport re-opened next day after Maria only accepting daylight flights, as operating with generators. Incoming flights were only Military and Humanitarian Aid.
- Private company Jets start arriving shortly after the storm with personnel & relief goods.



# ...Impact on Air Cargo

- **Industry Personnel** – The priority after the storm was to account for all personnel and assess the conditions and extent of damages. Some were severe, and impeded from them being able to re-incorporate to work.
- **FEMA/FAA** was controlling inbound flight slots
- **By first week of Oct.** Cargo Area Tarmac is over-congested with relief freight.
- **Since All Cargo Airlines** were committed to FEMA, the only way to get cargo (mainly relief and repair equipment) to PR in the first weeks was by way of Chartered Aircraft.



# Impact Air Cargo

- Major Cargo Airlines and Commercial Airlines were flying to SJU 72 hrs after the hurricane.
- Airport Electricity is back up on Oct.1 but unstable
- Communications are out in most of the Island, cellular and land lines. Without Internet most processes had to be done “Old School”  
– Manually
- By the end of the year Air Cargo is up by 30%



# Impact on Ground Transportation



- Shortage of drivers on the Island –
- FEMA recruited many drivers
- Hurricane Impacted drivers and equipment.
- Less than 20% of island drivers operating.
- Shortage of Diesel – many drivers were unable to operate as could not have a consistent diesel supply
- Communication – Dispatching routes was very challenging as there was no communication with a driver once he left the plant or terminal



# Impact on Ground Transportation

- Many roads closed around the Island due to debris, landslides or road damages.
- Traffic congestion, no traffic lights and many crews working on repairs.
- **CASH ONLY** – for the first 2 weeks after Maria only Cash was accepted for all fuel or parts purchases, making even more critical the availability of drivers.



# Lessons Learned and Moving Forward

- Only one cargo handler in SJU, there must be more resources in this area.
- 21 emergency generators in SJU and increasing this to impact various other operational areas.
- Air Cargo area moving to solar illumination.
- SJU will now be prepared to endure a Cat. 5 storm.



## What do we do with the lessons learned?

- Re-design our own Business Continuity Plans
- Verify resources, readiness and BCP of our transportation providers.
- Ensure that provider BCPs are aligned with your BCP.
- Plan for the worst case scenario, be prepared.



PUERTO RICO SE LEVANTA

Puerta Rico Will Rise

The resilience of the people in PR is unique. Now, 6 months after the devastation of Hurricane Maria, PR is back in business. *We're Back and Stronger than Before*

# Washington Update: Plan for Transportation Infrastructure Investment and Improvements

HPCLC Spring Conference

March 27, 2018



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# Transportation Infrastructure

- Key Trump campaign promise— “to rebuild America’s infrastructure” to improve:
  - America’s competitiveness
  - citizens’ quality of life
  - the economy



# Transportation Infrastructure

- Possible bipartisan issue?
- But it's an election year!



# Current Infrastructure Challenges

- Highway congestion—traffic delays result in \$160 billion annually in lost productivity
- 1 in 5 domestic flights are delayed or cancelled
- Seaports and inland waterways are aging and falling behind our global competitors
- Too much reliance on Federal funding
- Complexity and delays in the permitting and environmental review

# Miami Pedestrian Bridge Collapse



- Biggest challenge: **FUNDING**



# Funding Issues

- Insufficient federal funding from the General Treasury available to cover enormous investment that is needed
- Federal gas tax used to fund the highway system (Highway Trust Fund) is insufficient and unsustainable
  - no increase since 1993
  - no adjustment for inflation
  - increased fuel economy

# White House **Legislative Outline** for Rebuilding Infrastructure in America (Feb. 2018)

- Request for Congress to act on infrastructure bill
- **Proposes \$200 billion in federal funding** and a goal to stimulate at least **\$1.5 trillion** in new investment over 10 yrs.
- Expedite project approval process to 2 yrs. or less
- Encourage training of the future American workforce

# White House **Legislative Outline** for Rebuilding Infrastructure in America (Feb. 2018)

- Proposal covers:
  - roads, bridges, and airports
  - drinking and wastewater systems
  - waterways and water resources
  - energy
  - rural infrastructure
  - veterans' hospitals
  - Brownfield and Superfund sites

# White House Plan for Rebuilding Infrastructure in America

- Key Objectives:
  - Empower state and local decision-making
  - Partner with the private sector—and remove barriers to encourage greater private investment
  - Develop transformative technologies—automated vehicles, high speed rail, UAVs or drones?
  - Accelerate project delivery

# White House Plan to Streamline Transportation Infrastructure Projects

- **Highways:**
  - make FLMA federal contracting methods more flexible
  - increase threshold for major projects to \$1 billion to remove federal red tape for projects below the threshold
  - authorize states to repay federal investment to eliminate perpetual application of federal requirements, such as tolling restrictions, location of commercial plazas, restrictions on Interstate access, compliance with size and weight stds., highway beautification and HOV stds.

# White House Legislative Plan for Transportation Infrastructure Improvements

- Transit:

- Eliminate constraints on use of Public-Private Partnerships and amend the law to include value capture financing to encourage greater investment and decrease dependence on Federal grants

- Rail:

- Amend the law to clarify that all rail projects can take advantage of FAST Act streamlining provisions to expedite project delivery; and reduce statute of limitations from 2 years to 150 days to align rail project challenges to highway and transit SOLs

# White House Legislative Plan for Transportation Infrastructure Improvements

## ■ Airports:

- Limit FAA approval and oversight of non-aviation development activities at airports to create more efficient FAA oversight of critical airfield infrastructure
- Expand the number and size of airports that can participate in a pilot program regarding approval of privatization of an airport, and reduce percentage of airlines needed to approve privatization from 65% to majority vote

# White House Legislative Plan for Transportation Infrastructure Improvements

- **Waterways:**

- Allow non-federal public or private entities to access IWTF and general fund for inland waterway projects
- Authorize collection and retention of user fees by the federal gov't and third party service providers under WRRDA to defray costs; allow US Army Corps to retain recreation user fees generated from sites and facilities to address infrastructure and public safety

# White House Plan for Rebuilding Infrastructure in America

- Establishment of **transformative projects program**— federal grants to be available on a competitive basis
  - funding to be provided to ambitious, groundbreaking projects
  - that significantly improve safety, reliability, frequency or service speed and substantially reduce costs
- Program to be administered by the Department of Commerce with inter-agency involvement

# Democratic Infrastructure Proposal

- **Democrats unveil \$1 trillion infrastructure plan:**
  - \$1 trillion investment into a wide range of infrastructure needs, including \$140 billion for roads and bridges, \$115 billion for water and sewer infrastructure and \$50 billion to rebuild schools

# Democratic Infrastructure Proposal

- Seeks reversal of GOP tax cuts to finance the investment
- Would reinstate a top income tax rate of 39.6 percent, restore the individual alternative minimum tax, reverse estate tax cuts, and raise corporate income tax from 21 to 25 percent

# Closing Comments

- Chances for infrastructure bill are unclear: Election year reduces incentive for cooperation between Rs and Ds
- Will intervening events or priorities be the focus of Congress, i.e. gun control, immigration, tax reform II?
- Federal spending impact on the federal deficit?
- **Watch out** for user fees on one or more modal systems
- Dedicated funding for transportation projects or will monies offset other federal spending programs?
- Impacted parties should engage in the debate

# Questions(?)

**Karyn A. Booth**

**202.263-4108**

**[karyn.booth@thompsonhine.com](mailto:karyn.booth@thompsonhine.com)**

**[www.ThompsonHine.com](http://www.ThompsonHine.com)**



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# Trade Hot Topics

March 27, 2018



# North American Free Trade Agreement

- **May 18, 2017:** Trump administration submits notice to Congress of intent to renegotiate NAFTA
- **August 16, 2017:** 1<sup>st</sup> round of renegotiation
- **January 21-29, 2018:** 6<sup>th</sup> round of renegotiations
- **February 26, 2018:** 7th (most recent) round of negotiations
- **March 31, 2018:** Soft deadline to complete negotiations

*President Trump continues to insist that the U.S. will withdraw from NAFTA if it is not amended to address trade imbalances*



# North American Free Trade Agreement

- **Renegotiation**

- Update and strengthen/add NAFTA provisions involving e-commerce and digital trade, increased market access, etc.

- **Withdrawal**

- Tariffs will rise; revert to WTO levels
- Prices on various goods could increase
- Large impact on complex supply chains
- Other unknown, unintended consequences after 25 years of trade that reshaped the economy

# North American Free Trade Agreement

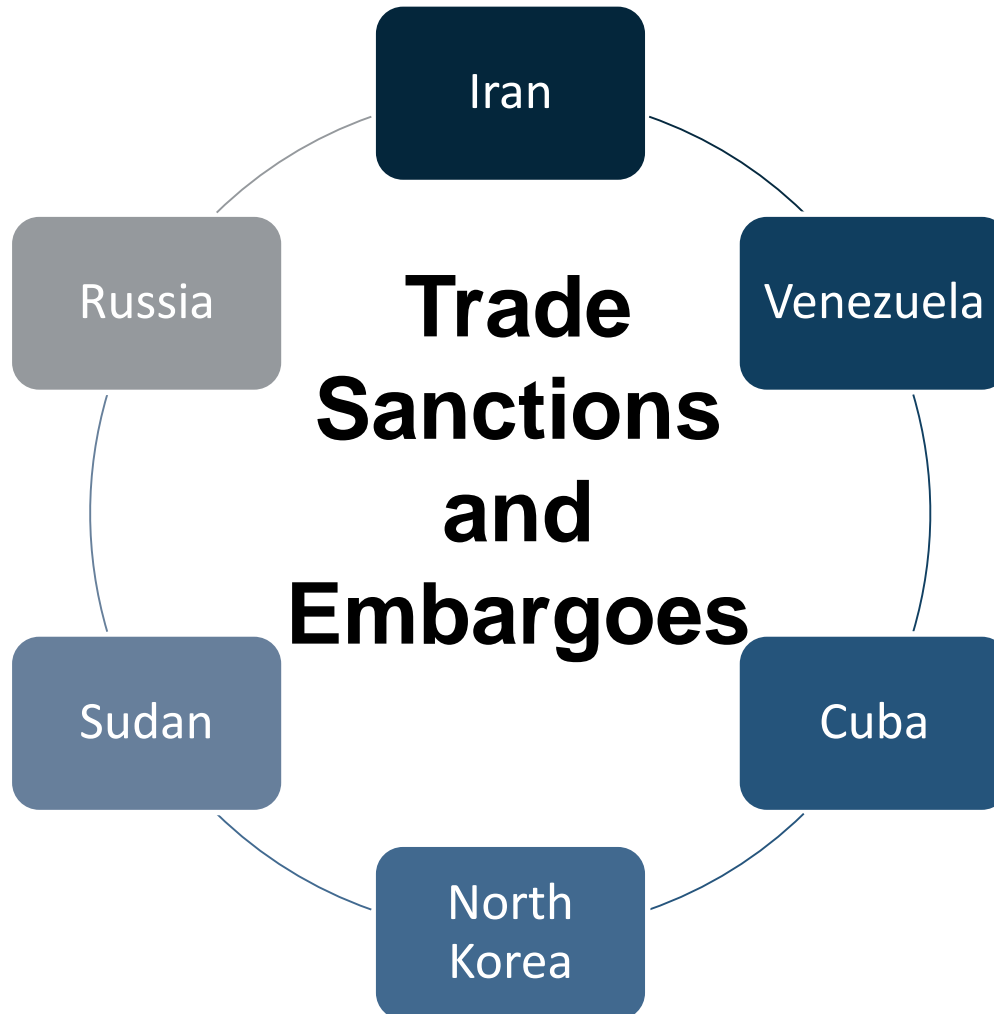


## What's Next?

- **Renegotiation – amendments are allowed under NAFTA Article 2202**
  - Trump would likely need to issue a Presidential Proclamation
  - Congress would likely consider under the terms of TPA
- **Withdrawal - six month notice under NAFTA Article 2205**
  - If withdrawal, does the U.S. seek a bilateral with Mexico and an updated U.S.-Canada Free Trade Agreement? Do Canada and Mexico remain in NAFTA?



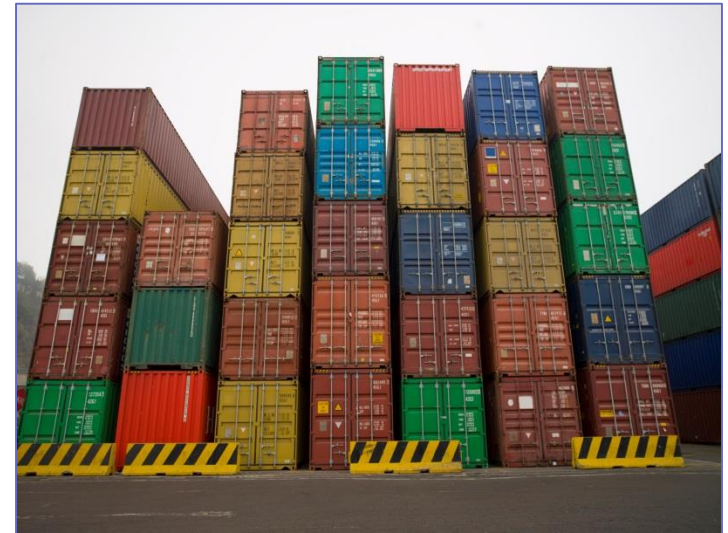
# One Year Later ...





# Iran

- President Trump's policy toward Iran continues to evolve
- **February 2017**
  - Iran is put on notice
- Europeans agree to discuss Iran deal with United States





# Cuba

- Support for the Cuban people, not for the Cuban state
- Department of State
- Bureau of Industry and Security (BIS)
- Office of Foreign Assets Control (OFAC)





# Russia

- Congress pressures the President to sanction Russia
- **August 2, 2017:** President Trump signs Countering America's Adversaries Through Sanctions Act (CAATSA) into law
- CAATSA Section 231
- President Trump recently waived sanctions





# Questions?



**G. Brent Connor**

Senior Counsel

[Brent.Connor@ThompsonHine.com](mailto:Brent.Connor@ThompsonHine.com)

202.263.4188

# Last-Mile Transportation

The Health and Personal Care Logistics Conference, Inc.

March 26-28, 2018

# Last-Mile Transportation

Today's consumers are expecting fast and free delivery. All stakeholders in the supply chain play an extremely critical role in efficiently meeting and exceeding the customer's expectations, but optimizing and perfecting the Last-Mile will determine the profitability of each order.

## Fulfillment

- Today's systems must process, approve, authorize & route orders efficiently within minutes
- Prioritizing orders throughout the day based on delivery windows poses challenges on planning
- Delivery windows, especially in pharmaceuticals, are expected to be within a few hours of ordering
- Incorporating brick-and-mortar for local deliveries is a must in today's OMNI environment

## Visibility

- Smartphones have revolutionized today's customers expectations
- Customers not only expect a P.O.D., but traceability, tracking details and estimated delivery time
- All systems must align in order to provide seamless information to all stakeholders
- Regional carriers must have the technology bandwidth to compete with larger carriers

## Crowdsourcing

- Enlisting the services of a large number of providers to efficiently & timely complete the last-mile
- Technology will leverage vehicle physical locations to improved route management & speed
- Limited to geographic locations
- Last point of contact with the customer and could influence overall satisfaction & future purchases

## Temp Control

- Pharmaceutical products that are temperature sensitive must track temperature to the last-mile
- Building trust is critical especially with pharmaceutical products that are temperature sensitive
- Visibility of the temperature for these items is critical to go above and beyond expectations
- Speed and efficiency of the last-mile will be as critical as proper temperature monitoring

# Last-Mile Exercise

- Each group will be assigned a Last-Mile Network Strategy
  - ❖ National Carriers (UPS, Fed-Ex, etc)
  - ❖ Regional Carriers (LSO, On-Track, Diacom, etc)
  - ❖ Others
    - Crowdsourcing (Uber, Lyft, etc)
    - US Postal Hybrid (SmartPost, SurePost, etc)
  
- Focus on “Needs vs. Capabilities” of each delivery strategy in the Health and Personal Care Industry
  - ❖ Identify Gaps & Solutions to Close Gaps
  - ❖ Price
  - ❖ Speed
  - ❖ Technology / Visibility
  - ❖ Peak Season
  - ❖ Fulfillment Center Locations
  - ❖ Customer’s Delivery Experience

# Transportation 2025: Navigating in a Digital Economy



**The Health and Personal Care**  
*Logistics Conference, Inc.*

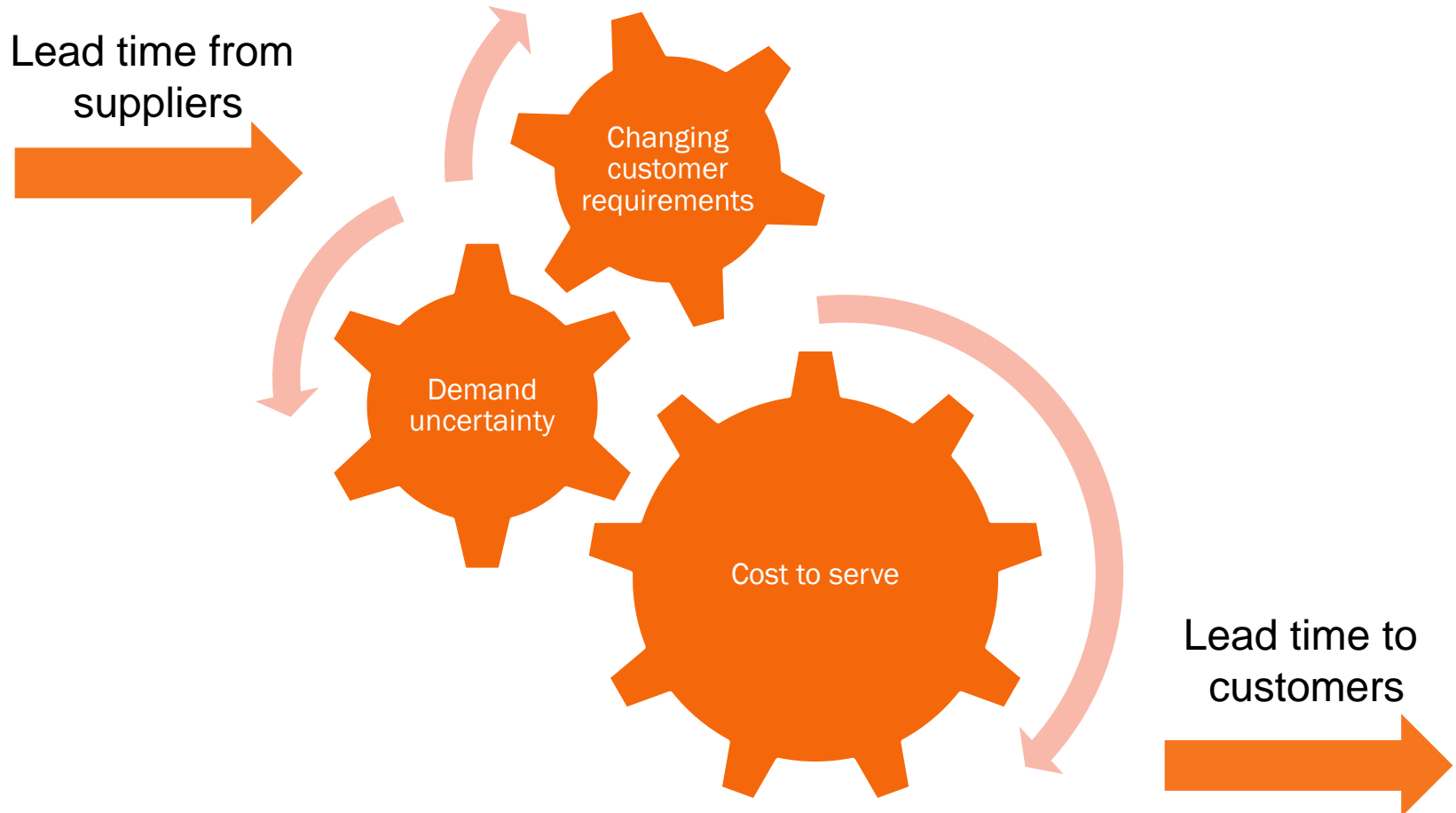
March 26-28, 2018

# Agenda

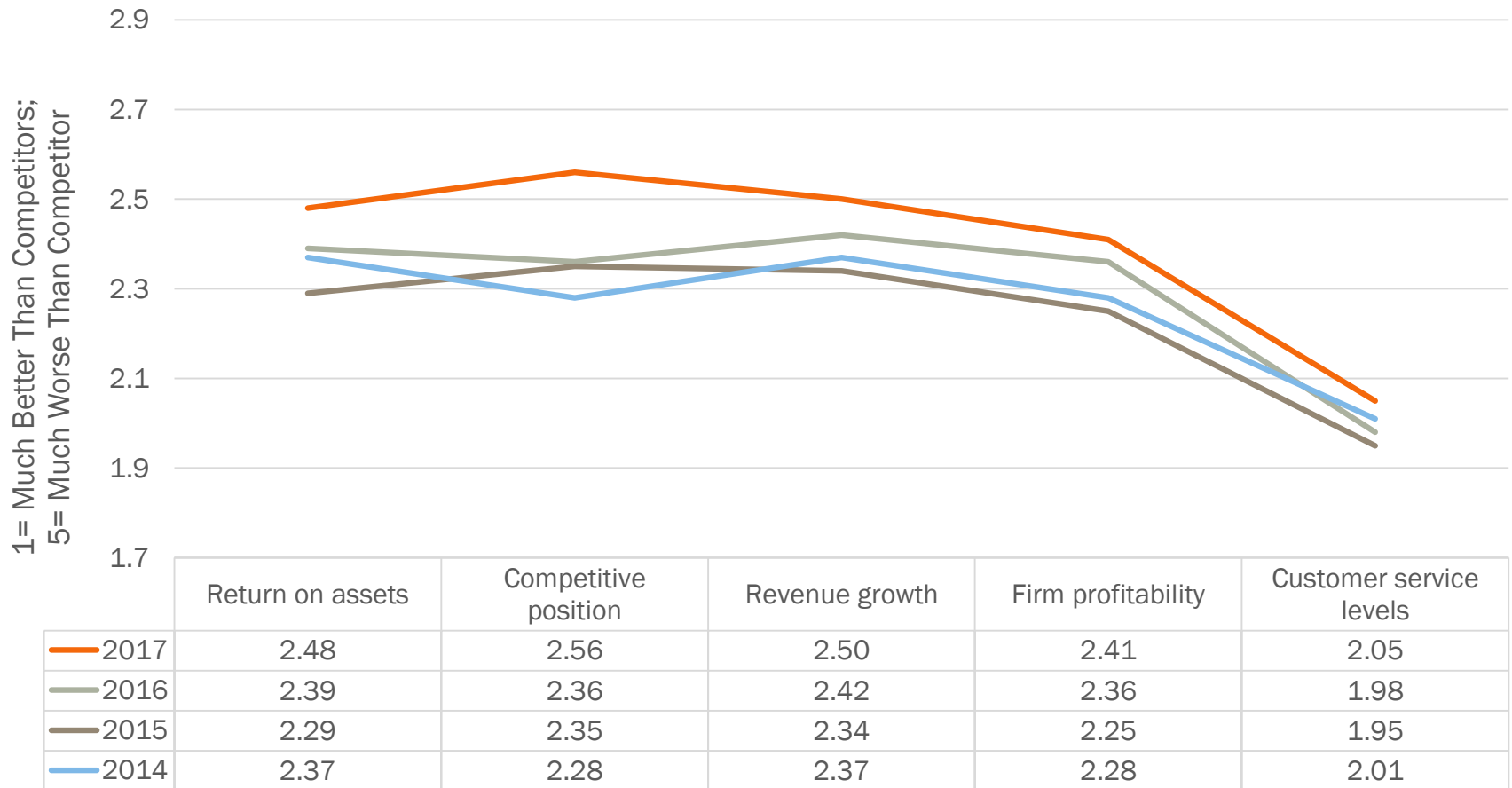
- Assessment of Current State
- Trends Shaping Transportation
- Navigating in a Digital Economy

# Assessment of Current State

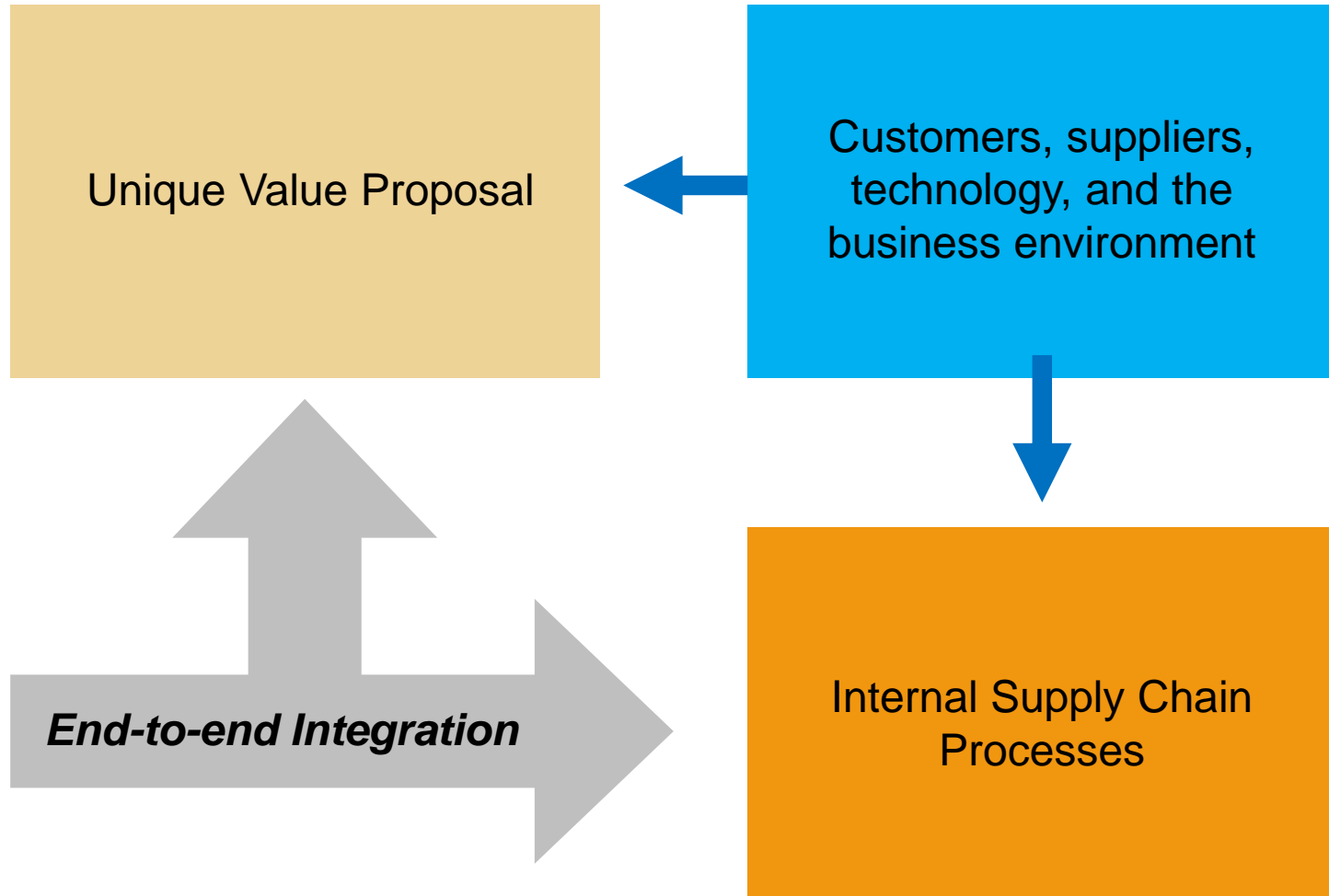
# A Continuing Cycle of Complex Supply Chain Issues



# Finding Efficient and Effective Supply Chain Solutions is Essential

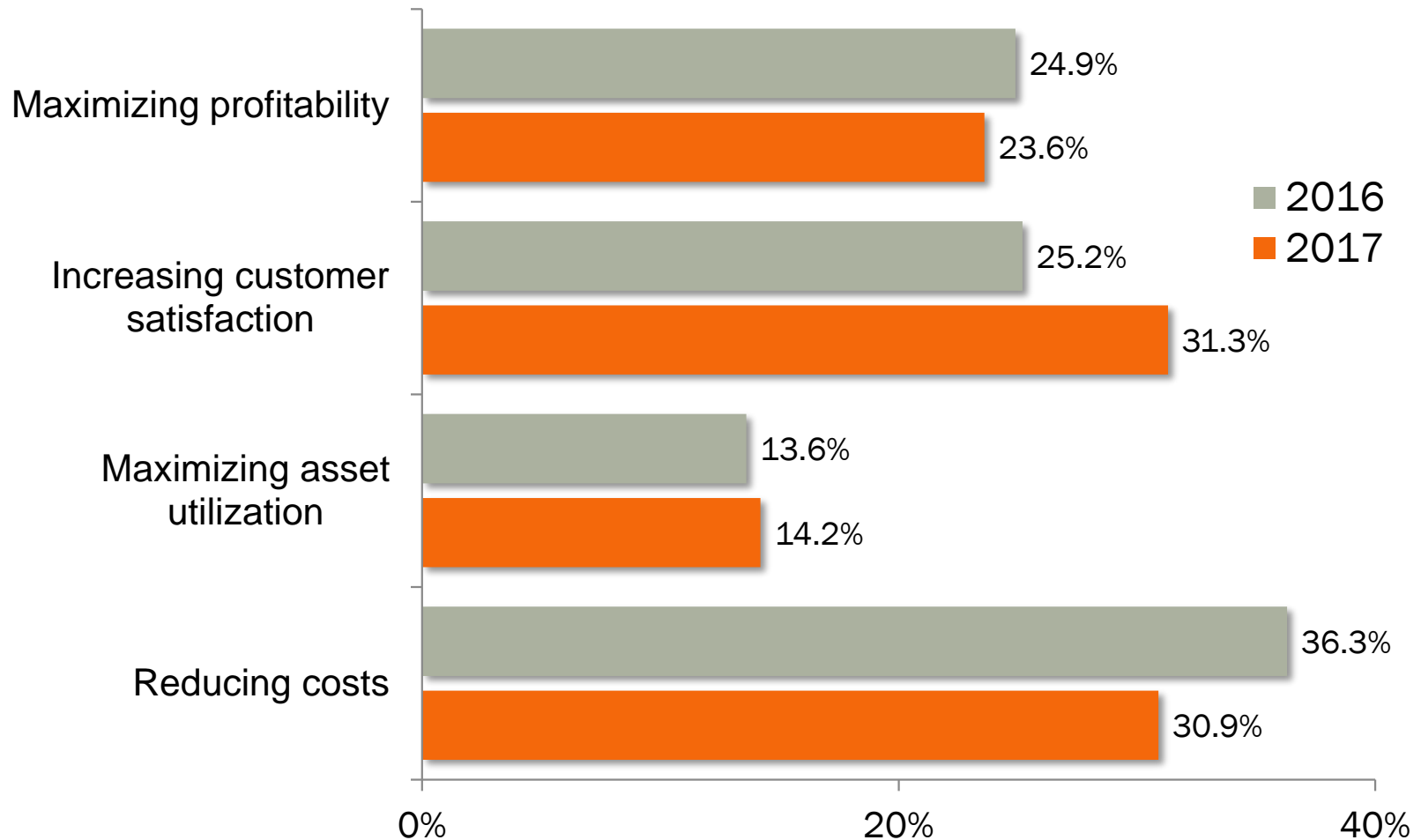


# Ensuring a High Level of Business Performance



# What Matters to Companies?

*The increasing importance of customer service*



# What Do Customers Want?

Order Qualifier vs. Order Winner

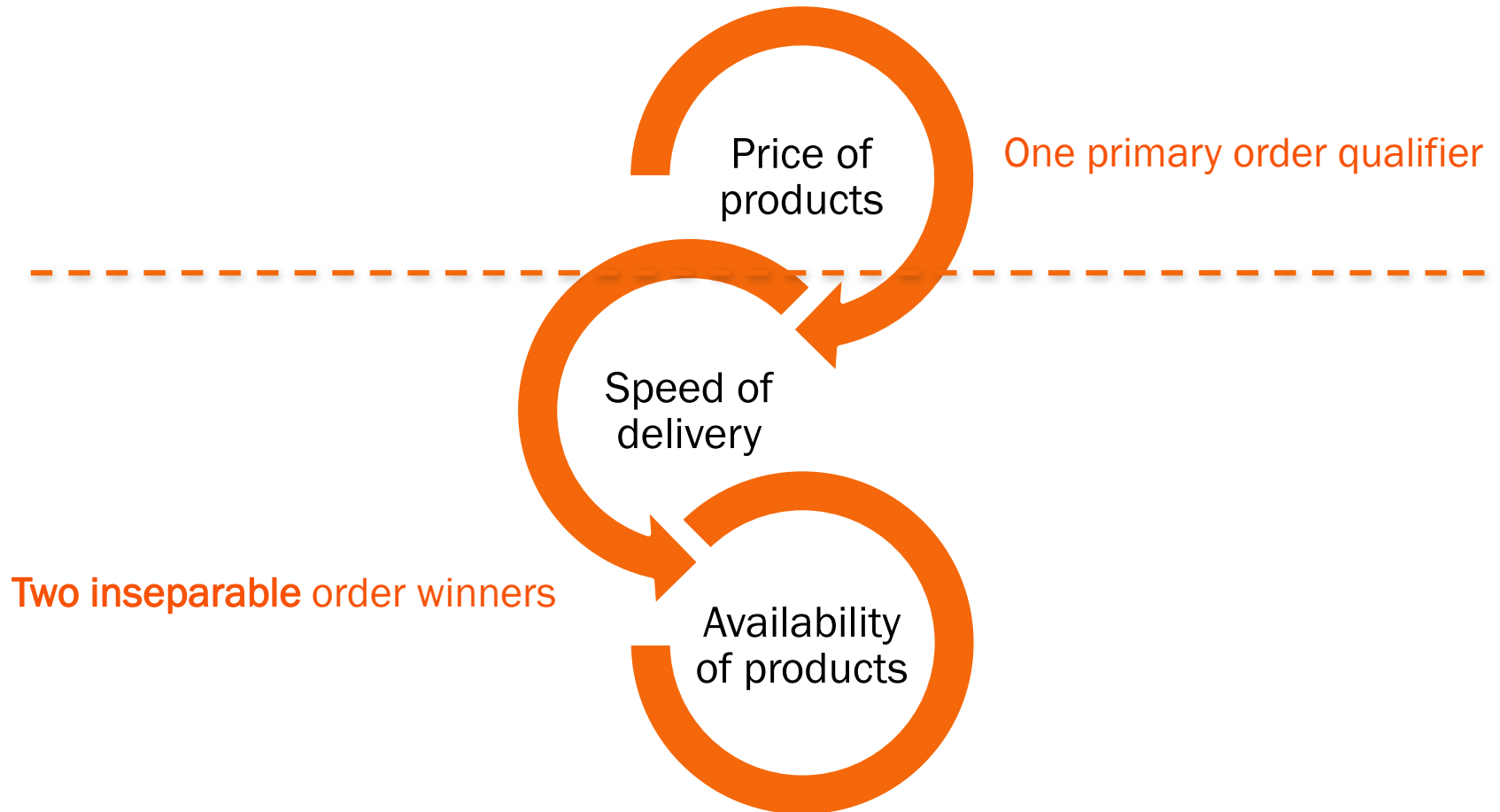


# Order Qualifier vs. Order Winner



# Changes In The Digital Economy

## Order Qualifier vs. Order Winner

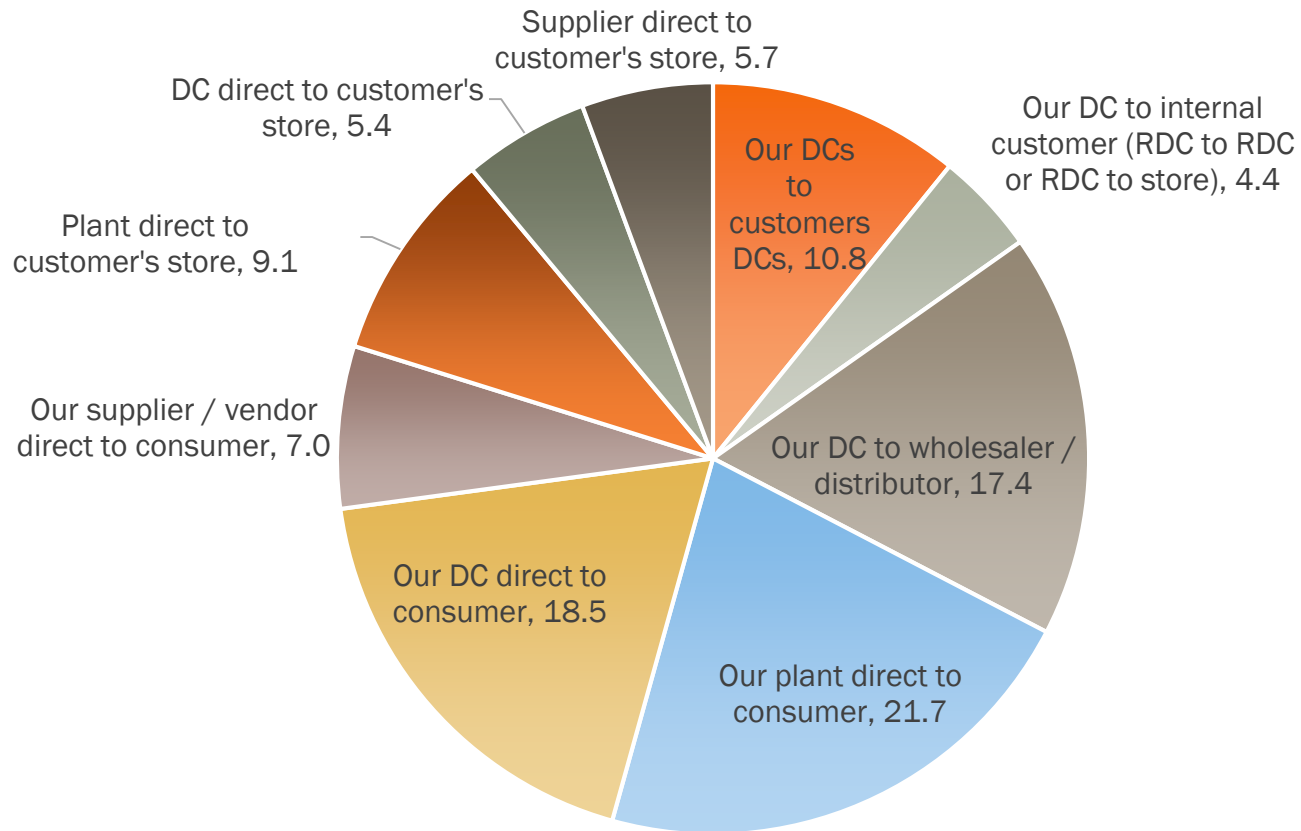


# Trends Shaping Transportation

# 2017: A Year of Multiple Challenges and Opportunities

- Factors impacting transportation
  - Cost to serve
  - Speed to market
  - Regulation
  - Digitization of the marketplace
  - Changing customer requirements
  - Technology changes and innovation

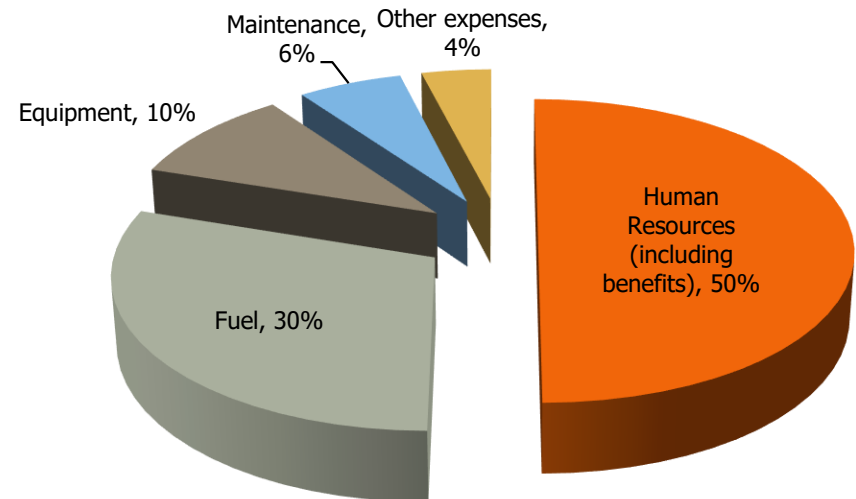
# Distribution is More Complex and Costly



Percent of transportation spend for outbound flows, 2017

# Major Cost Categories for Less-than-Truckload Carriers

- Increased equipment costs
  - Material costs and regulatory requirements
- In-cab technology
  - E-Logs, driver communication
- Newer equipment requires additional training and expanded skillsets for mechanics as well as investment in maintenance technology
- New tractors/engines capable of improved MPG
  - Can combine with other fuel efficiency improvement techniques
  - Some factors influencing MPG still out of carriers' control
- Increased driver salaries
- Increased benefits costs
- Increased recruiting / retention costs

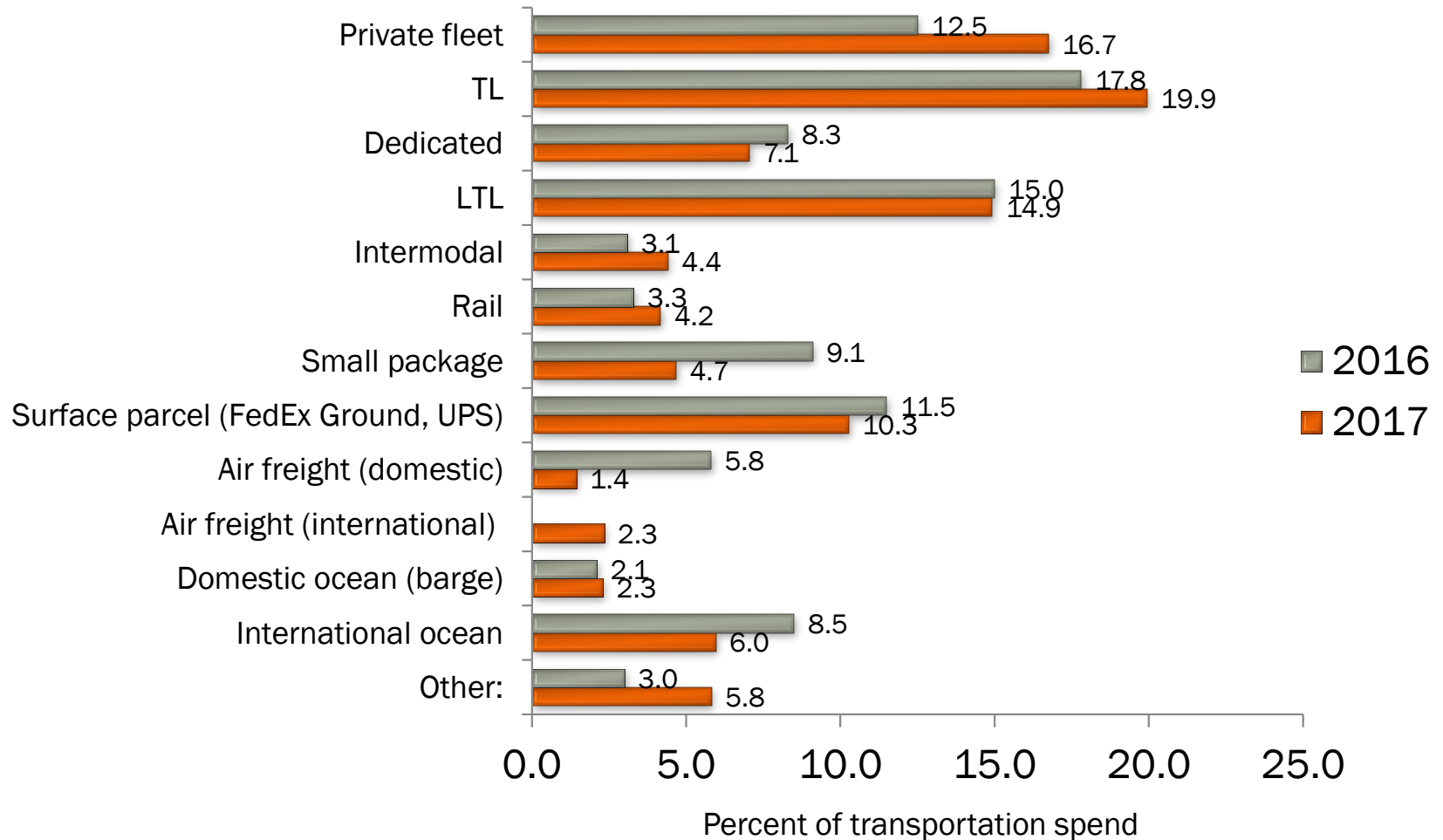


Source: Averitt Express, 2014

*“Freight is the largest variable cost for many shippers, and technology has the power to smooth that volatility.”*

*-- Matt Tillman, CEO, Haven*

# The Impact of Digital Speed on Transportation



# Transportation Scorecard

Mode of Transportation	GRADE	2017	2016	2015	2014
TL	D+	69.9%	69.5%	62.1%	73.1%
LTL	C-	70.3*	76.4%	72.2%	78.8%
Rail	F	52.0%	62.3%	35.3%	85.5%
Intermodal		NA*	50.4%	51.9%	75.8%
Parcel	A-	90.1%	66.0%	73.8%	90.6%

\*Not available

# Primary Actions For Leveraging Transportation Spend

## Priority 1

- Improved shipment consolidation

## Priority 2

- Increased shipment visibility
- Increased use of drop and hook
- Used more sophisticated tools for managing operations

## Priority 3

- Increased multi-stop truckload
- Increase the use of dedicated transportation

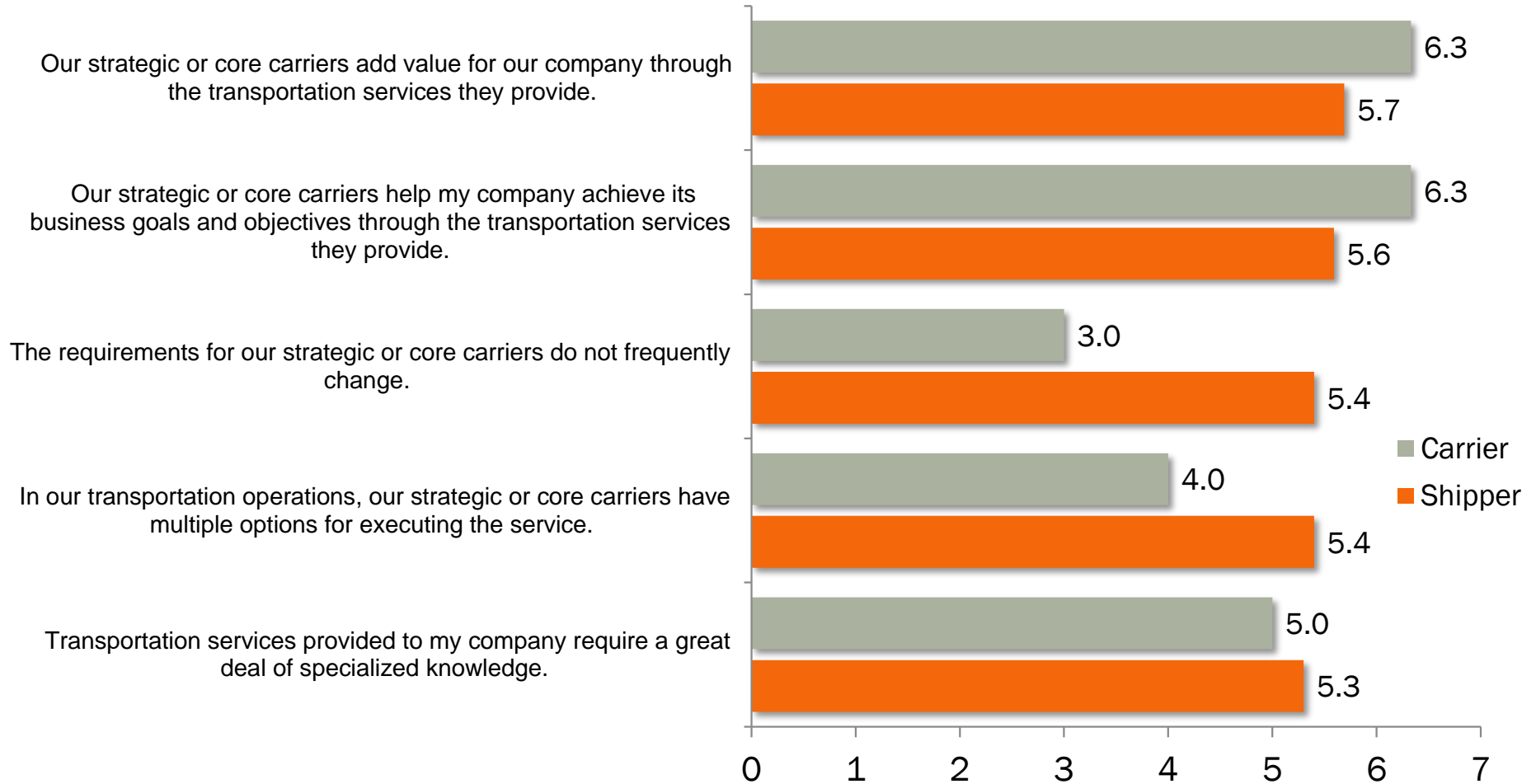
## Priority 4

- Increased focus on backhaul
- Increased the use of crossdocking or pooling
- Made loads available to carriers much earlier than previously done

*“Logistics is a little bit like plumbing in your house. As long as it’s working well.....you don’t tend to worry about it. But the moment that stops working properly, it escalates to probably become perhaps the most important issue In your home and certainly in your business.”*

-- Kevin Holian, Vice President of Global Operations  
New Balance, Inc.

# Aligning Value Creation: A Comparison of Perspectives (Shipper's Top 5)



SCALE: 1= Strongly disagree; 7=Strongly agree

# Misaligned Perceptions

## CONTRASTS IN VIEWPOINTS ON TRANSPORTATION SERVICES

### SHIPPERS

- Transportation services provided require some degree of specialized knowledge
- Somewhat difficult to standardize processes and procedures
- Transportation services are somewhat identical in terms of quality
- There are no frequent changes in the mix of strategic carriers
- The requirements for strategic carriers do not frequently change

### CARRIERS

- Transportation services provided require a great deal of specialized knowledge
- Extremely difficult to standardize processes and procedures
- Transportation services are not the same in terms of quality
- There are frequent changes in the mix of strategic carriers
- The requirements for strategic carriers changes frequently

## CONQUERING THE RELATIONSHIP DIVIDE

### SHIPPER GOALS

- Cost Savings
- Equipment Availability
- Improved Visibility

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### CARRIER GOALS

- Profit Improvement
- Consistent Volume
- Asset Demand Forecasting

# Navigating in a Digital Economy

Transportation 2025

*“The growth of e-commerce is forcing all of us to improve our technology and adapt to living in a smartphone world.”*

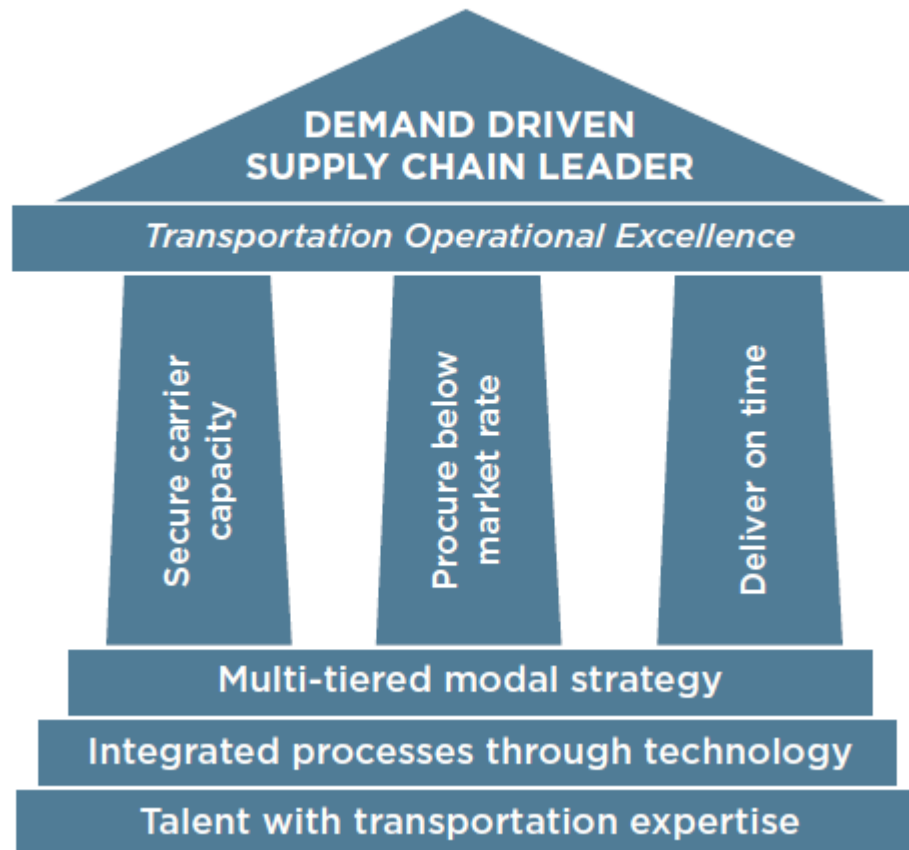
*– Greg Hewitt, CEO, DHL Express in the Americas*

# The “Recipe” for Leading Edge Companies in Creating Value-Add Transportation

- Long-term strategies/partnerships to succeed
- Establishing the ‘right’ culture for driving transportation
- Highly customized services to meet emerging needs
- Effectively utilizing carrier capabilities and expertise
- Fully leveraging digital technology and analytics

# Strategy Provides the Framework

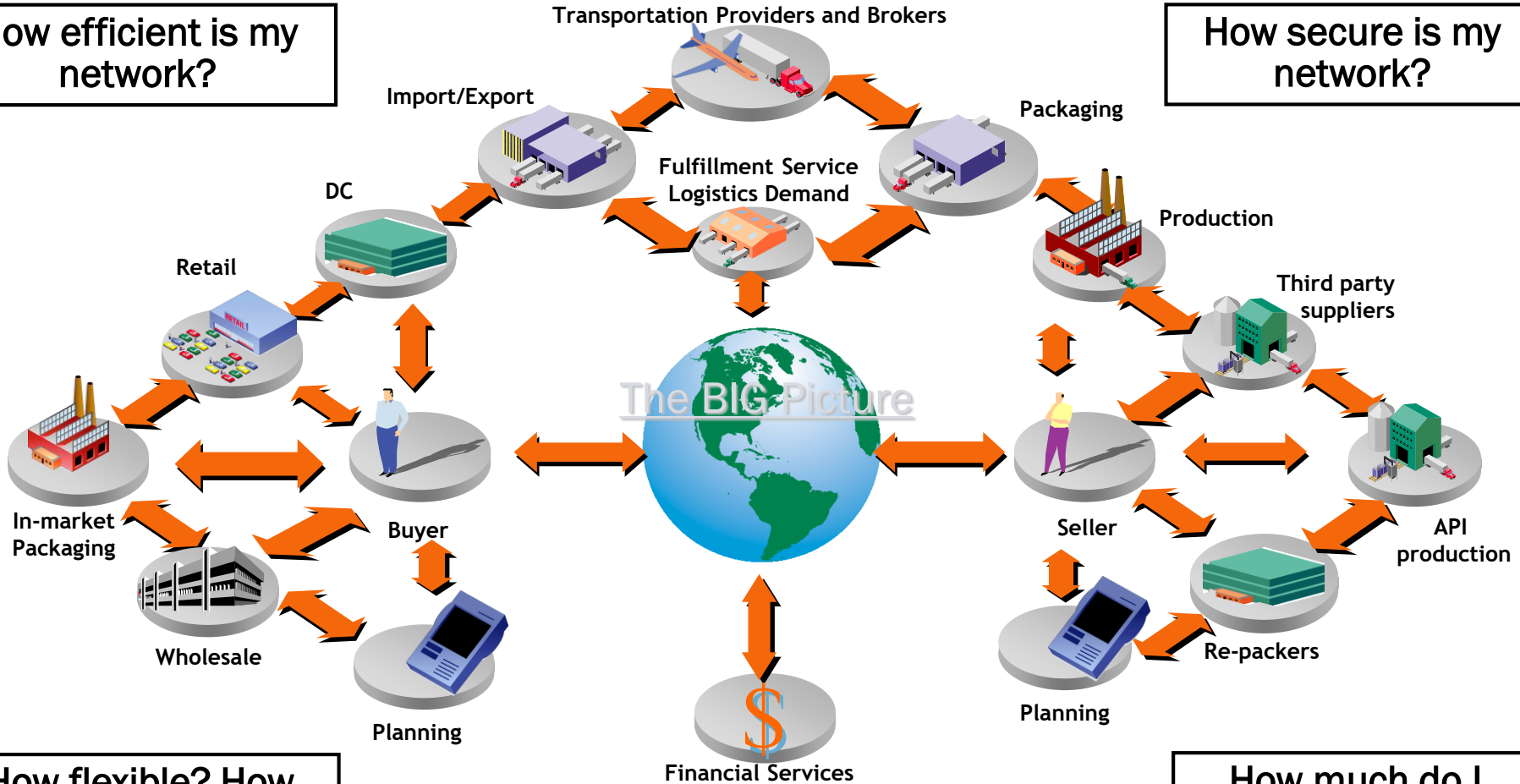
## TRANSPORTATION AS A CORE COMPETENCY



# The BIG Picture

How efficient is my network?

How secure is my network?

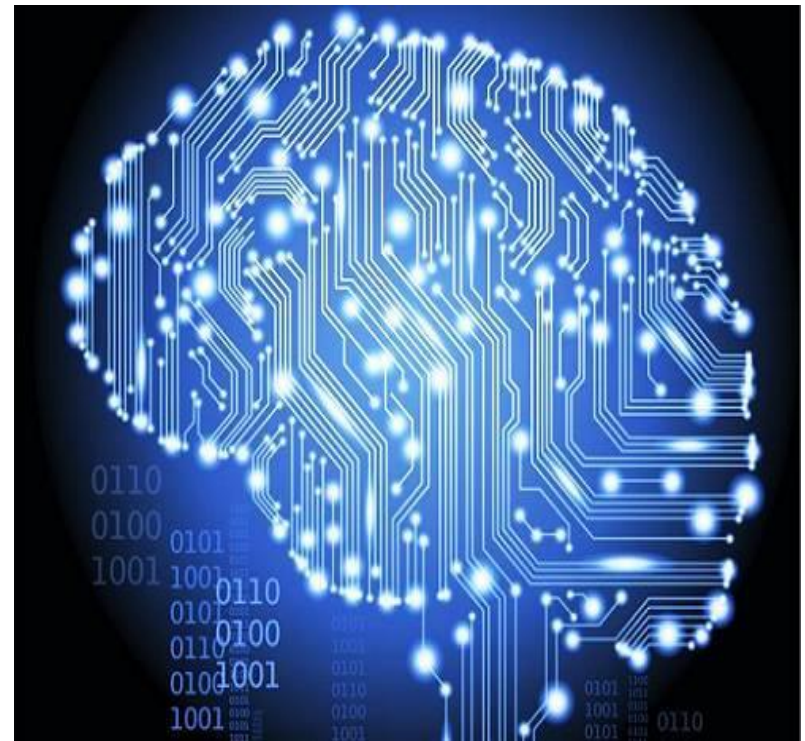


How flexible? How scalable?

How much do I control?

# Elements of Transportation @ Digital Speed

1. Increased responsiveness across the end-to-end supply chain
2. Cost is aligned with value creation
3. Leveraged cooperative relationships
4. Technology enabled integration that is flexible and nimble
5. Analytic insights that lead to faster actions



# Research Team

## Annual Trends and Issues in Logistics & Transportation

MARY  
HOLCOMB,  
Ph.D.

Professor,  
University of  
Tennessee

KARL B.  
MANRODT,  
Ph.D.

Professor,  
Georgia  
College

TOMMY  
BARNES

President,  
project44

# PEANUTS

Charles M. Schulz



*Questions?*