



TRENDS SHAPING THE FUTURE OF FREIGHT

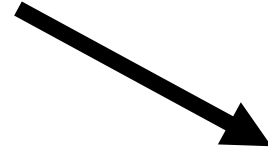
FREIGHT MATTERS webinar series
March 29, 2017





Webinar Housekeeping

- Submit a question via the Questions box on your GoTo control panel.
- After the presentation, as time permits, our EPA presenter will answer questions submitted via the Questions box.
- Please complete the survey at the end of today's webinar. Your feedback is important to us!



Questions

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SmartWay

Attention Truck Carrier Partners:

The [2017 SmartWay Truck Carrier Tool](#) is now available, with supporting documents.



SmartWay Latest News

Watch our new [About SmartWay](#) video to learn how efficient freight improves supply chain performance!

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Upcoming Webinars & Events

- **Education Webinar, March 15, 2017:** [Shippers: Learn About Resources For Aligning Win-Win Relationships With Your Carriers](#)
- **Freight Matters! Webinar, March 29, 2017:** [Key Trends Shaping the Future of Freight](#)

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EPA hosts events and webinars to help you learn how to get the most out of the SmartWay Program.

Upcoming Webinars: To participate in an upcoming SmartWay webinar, you must pre-register. Registration links are provided below in webinar descriptions. After registering, you will receive a confirmation email containing information about joining the webinar.

Past Webinars: Selecting the "Past Webinar Resources" tab shows you previous training topics and may include additional resources such as slides, recordings, and transcripts.

Webinars are free: Please register promptly because registration may be closed to new attendees after 12:00 noon on the day of the webinar.

Freight Matters! Webinar Series: Hear from leaders in the industry about freight-related trends and issues that matter to your business



Upcoming Webinars/Events

Past Webinars/Events



Suggest a Webinar Topic: If you would like to see a webinar about a particular topic, [email your idea](mailto:smartway_transport@epa.gov) (smartway_transport@epa.gov) with the subject line "SmartWay Webinar Suggestion."

[Event Type Legend](#)

↕ Type	↕ Date	↕ Event Name
Education Webinar	March 15, 2017	Shippers: Learn About Resources For Aligning Win-Win Relationships With Your Carriers
Freight Matters Webinar	March 29, 2017	Key Trends Shaping the Future of Freight



Denise Kearns

Environmental Protection Specialist
U.S. Environmental Protection Agency

Denise is a key member of EPA's communications team that supports the agency's SmartWay program, a public-private partnership that since 2004 has reduced fuel use by over 170 million barrels of oil, lowered fuel costs by almost \$25 billion, and achieved significant reductions in carbon, NOX and particulate.



TODAY'S TOPICS



- Emergence of clean freight & efficiency in the U.S.
- Current trends in freight transportation
- Supply chain logistics and the e-commerce BOOM!
- Green retail in an era of change

U.S. transportation energy use & emissions

- Transportation consumes roughly $\frac{2}{3}$ of all *petroleum-based* fuel use & emits almost $\frac{1}{3}$ of all carbon and other harmful emissions in the U.S.
- Freight sector accounts for over 25% of all fuel consumed and air emissions from transportation
- For trucking companies, fuel is second high operational cost
- Freight sector is the fastest growing source of transportation emissions globally

U.S. leadership in clean freight & efficiency

- **NEW EQUIPMENT**

- Emissions and fuel efficiency standards for medium and heavy duty trucks

- **'LEGACY FLEET'**

- Clean diesel grant, loan & community programs

- **EQUIPMENT, TECHNOLOGY, COLLABORATION, SUPPLY CHAIN**



SmartWay, transportation efficiency, collaboration and clean air



- Improve U.S. freight efficiency and competitiveness
- Highlight industry efforts to improve sustainability
- Provide a standardized benchmarking and performance assessment system
- Facilitate collaboration between freight carriers, 3PLs and shippers
- Address trends, future opportunities for freight sustainability

Bob Costello

Chief Economist & Senior Vice President
American Trucking Associations (ATA)

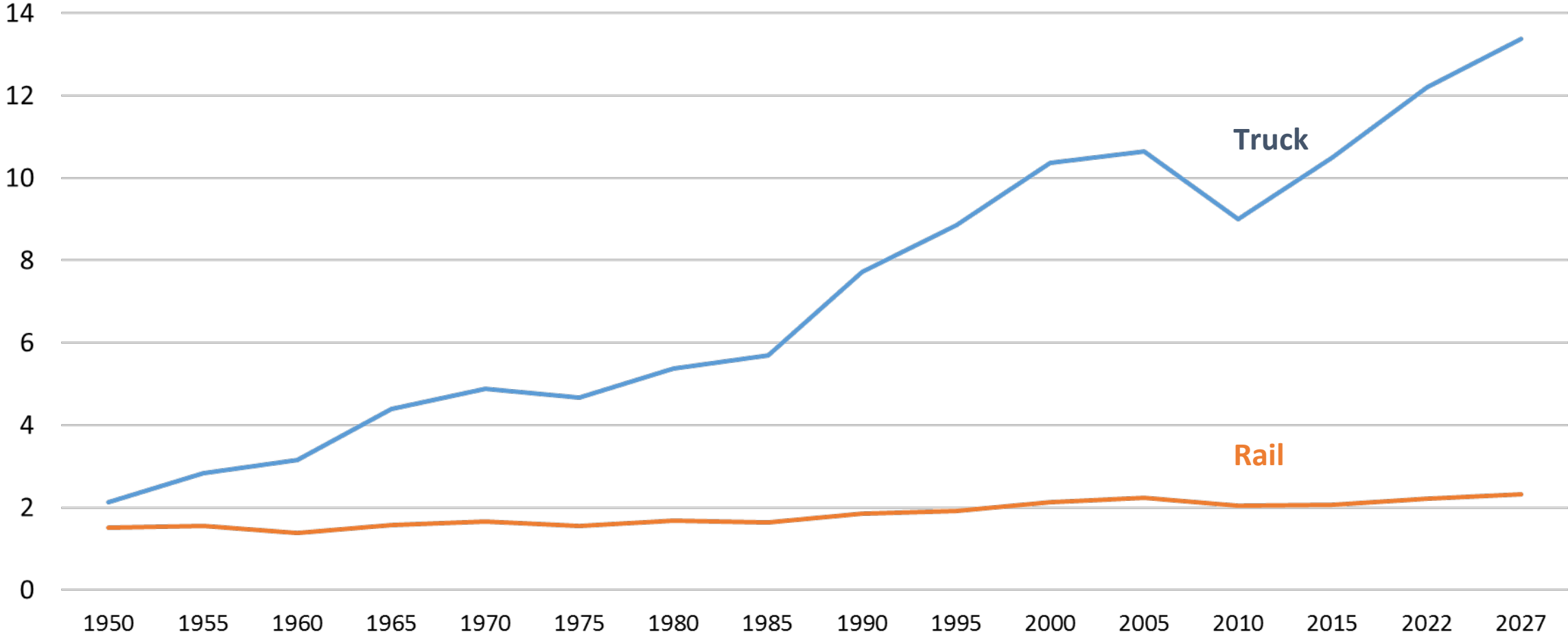
As chief economist for ATA, Bob manages ATA's collection, analysis and dissemination of trucking economic information, regularly producing several reports about trucking economic activity, an annual freight transportation Forecast, driver wage studies, weekly diesel fuel price and economic reports and a yearly trucking almanac.

Bob is often cited in the news media as an expert on trucking economics, including the Wall Street Journal, Business Week, CNBC, FOX Business Channel and National Public Radio.



Trucking's Importance to the Economy Has Surged Over the Decades

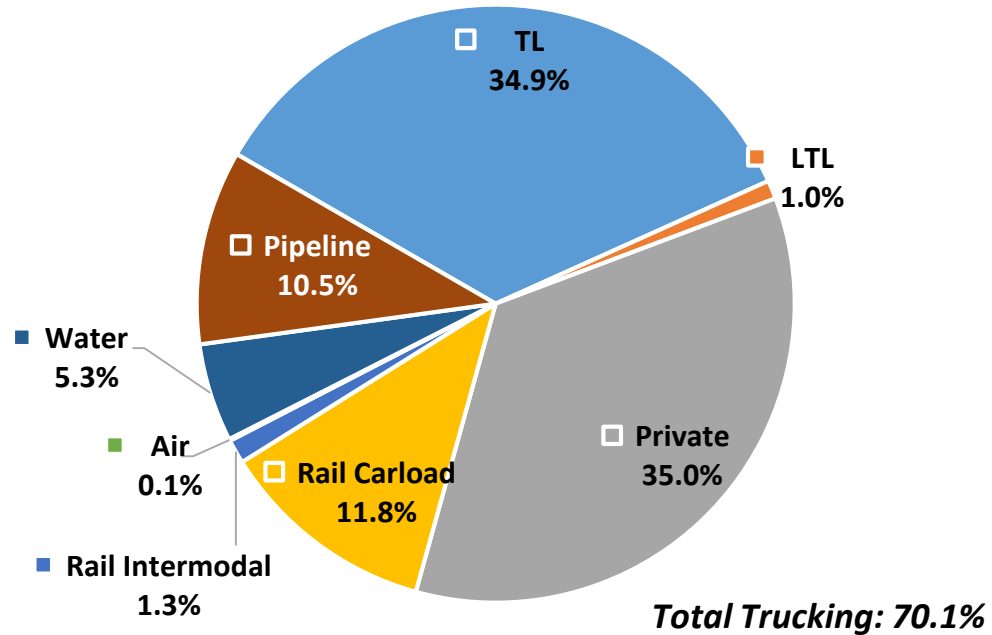
Billions of Tons



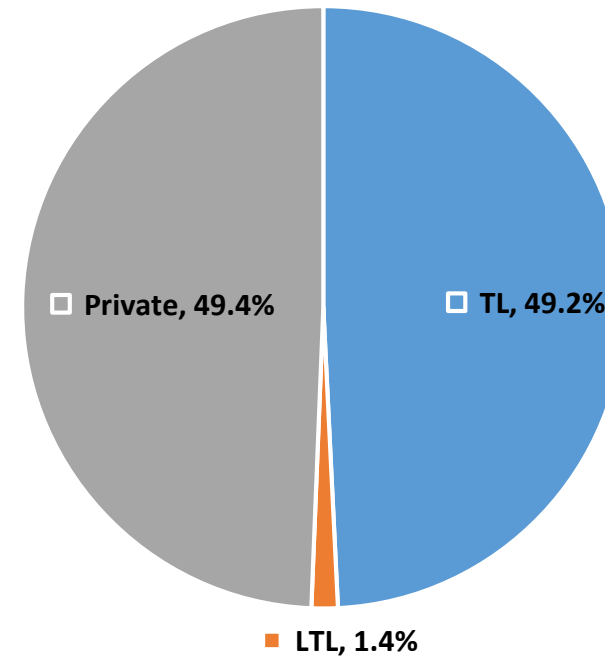
Source: U.S. Freight Transportation Forecast to 2027, Eno Foundation, ATA



Distribution of Tonnage by Mode: 2015



2015

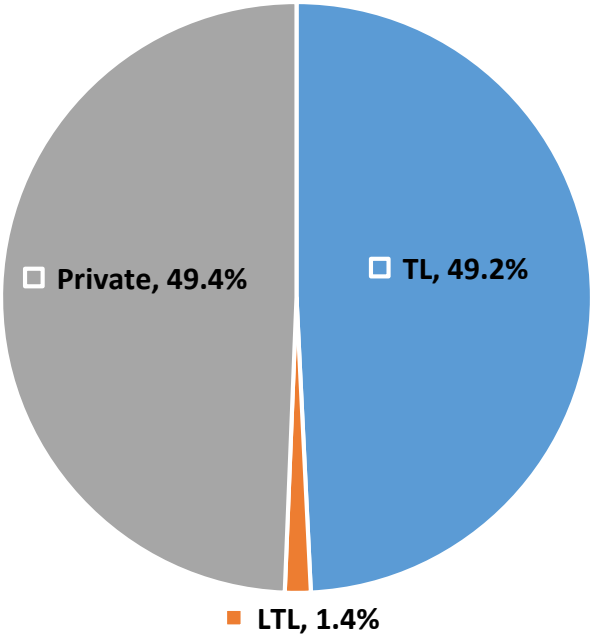


Truck Tonnage Only

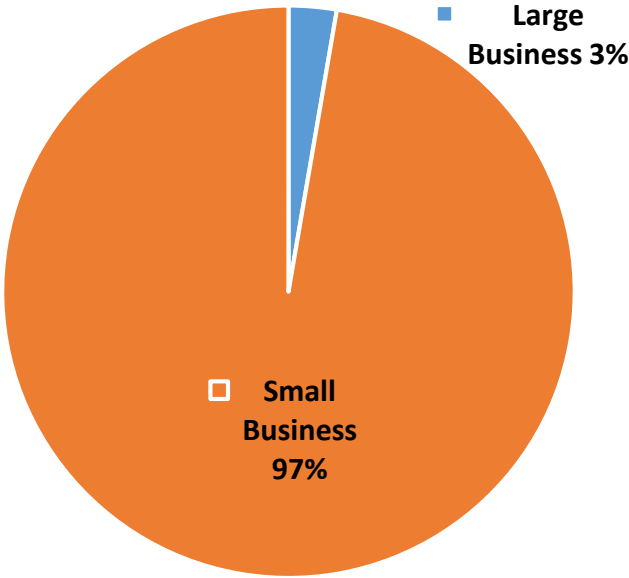
Source: U.S. Freight Transportation Forecast to 2027

Trucking Is a Diversified Industry

Tonnage Moved (2015)



Distribution of Carriers by Power Units Operated

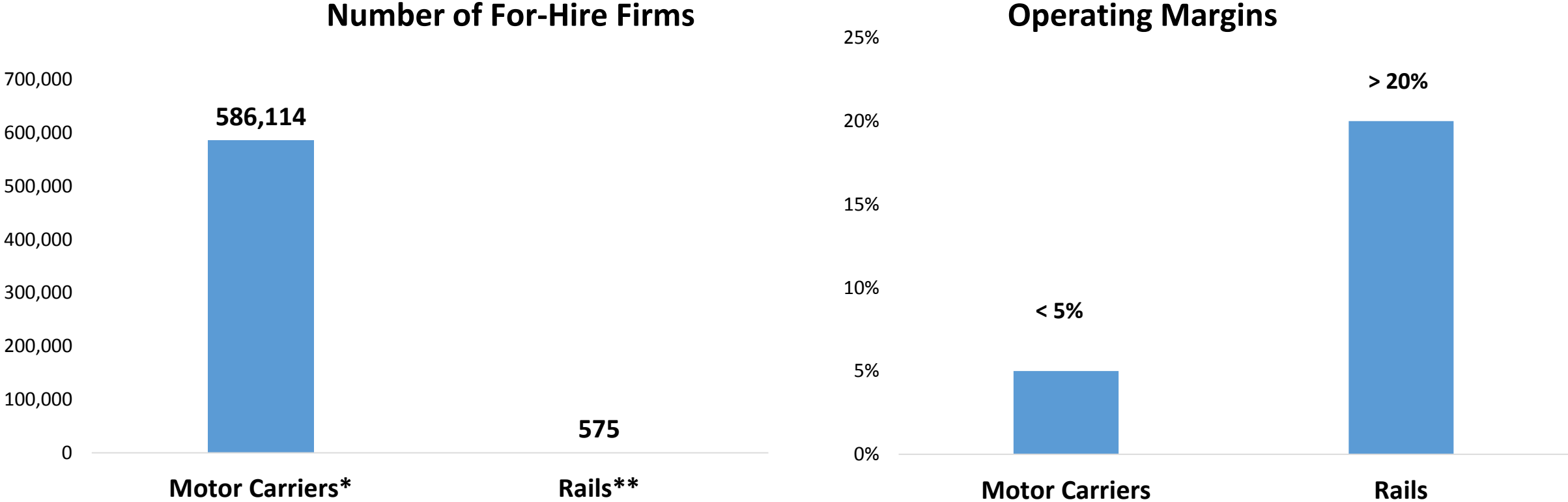


Small Carriers Dominate the Industry

Fact: In 2015, the top 20 for-hire TL carriers accounted for just 11% of total TL industry revenue.

Sources: U.S. Freight Transportation Forecast to 2027; American Trucking Trends

Trucking is Ultra Competitive, Leading to Small Margins



*There are over 500,000 private fleets as well, some which are beginning to do some for-hire (back hauls).

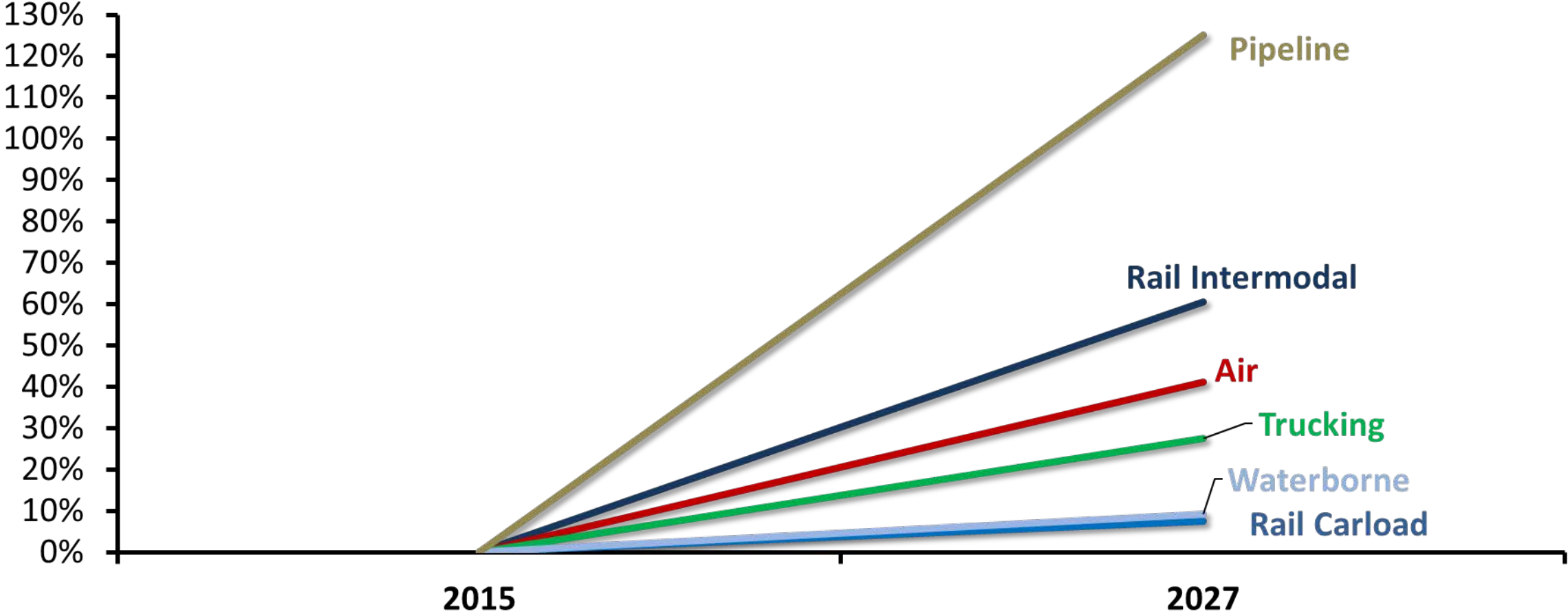
**There are 7 Class I railroads and the remaining are short-lines.

Trucks vs Trains

More Fiction Than Fact

All Modes of Freight Transportation Will Grow

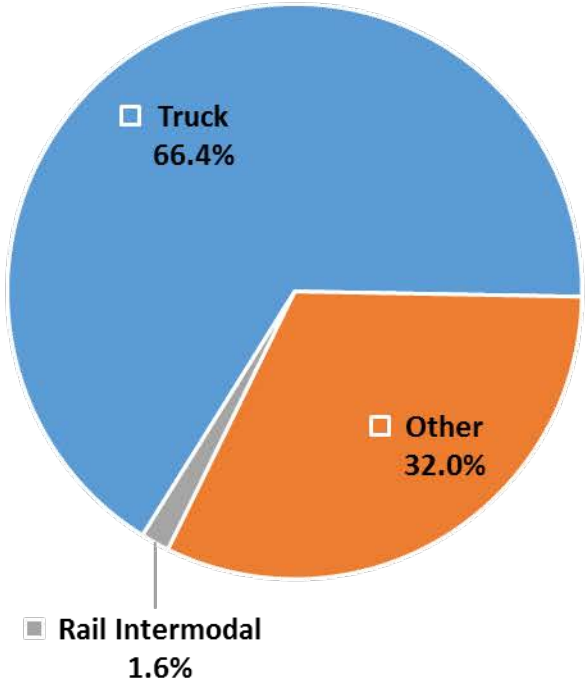
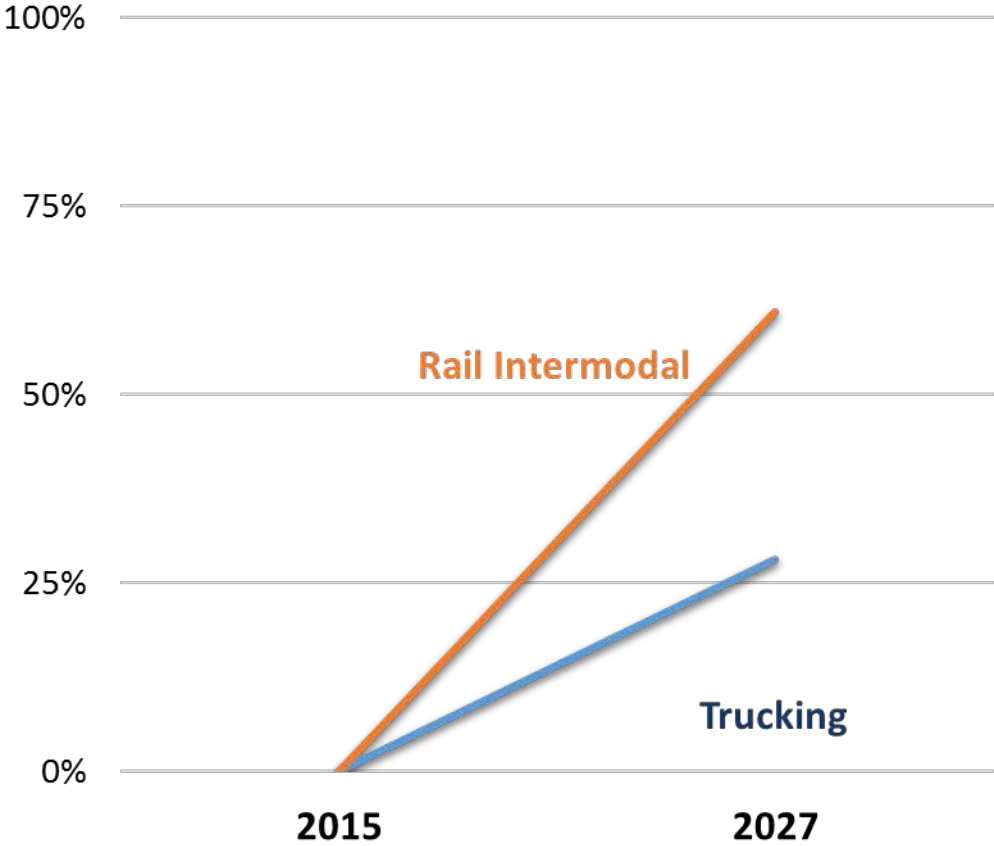
Total Increase in Tonnage from 2015 to 2027



Source: U.S. Freight Transportation Forecast to 2027

Tonnage Growth 2015 to 2027 & Market Share in 2027

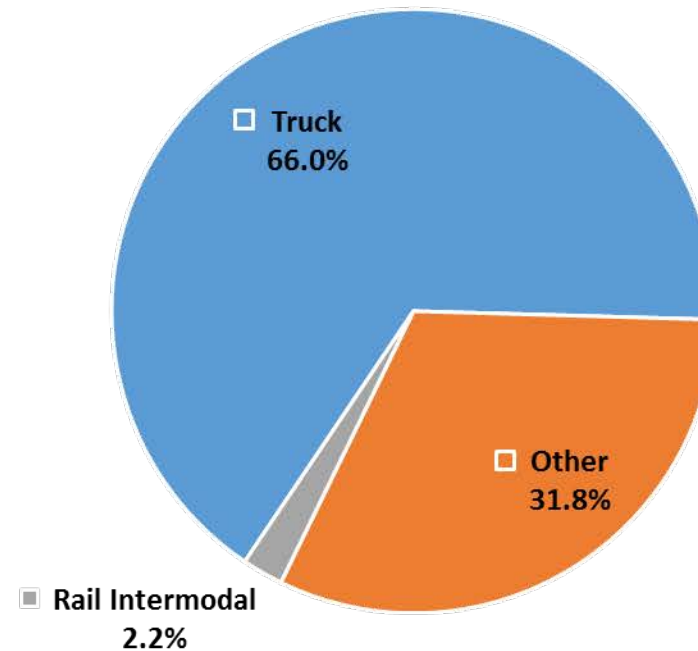
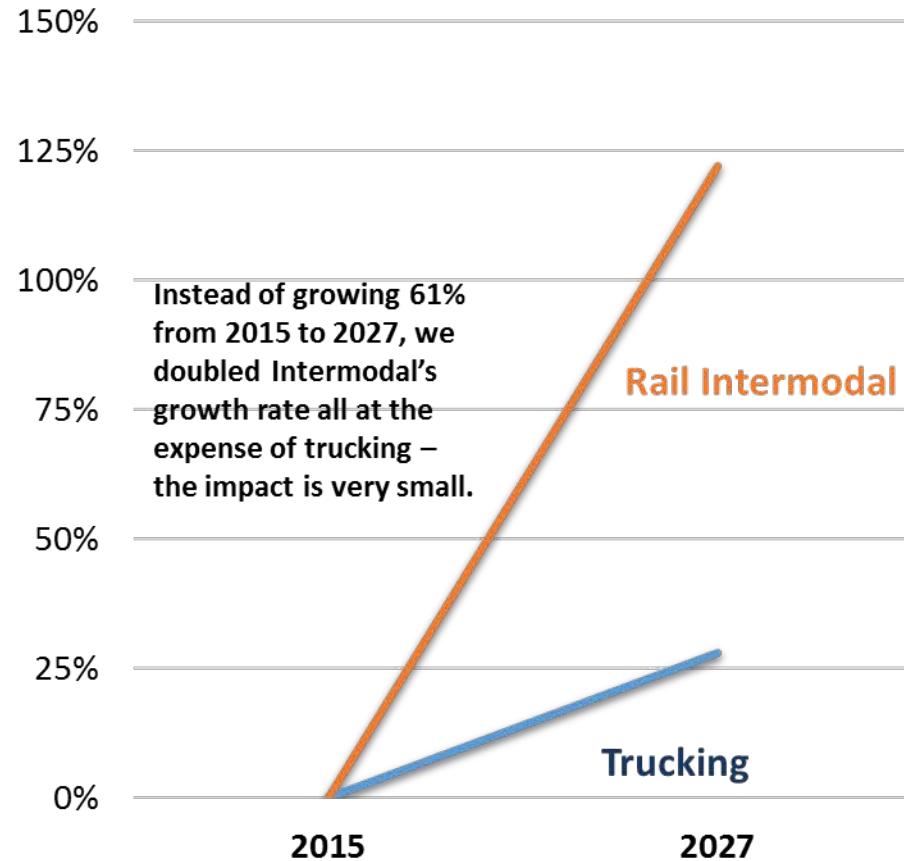
(Baseline Forecast)



Sources: ATA & U.S. Freight Transportation Forecast to 2027

Tonnage Growth 2015 to 2027 & Market Share in 2027

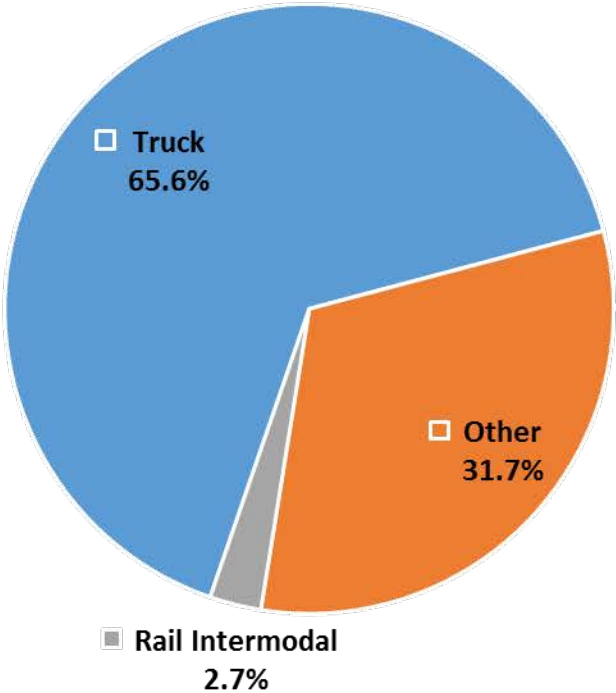
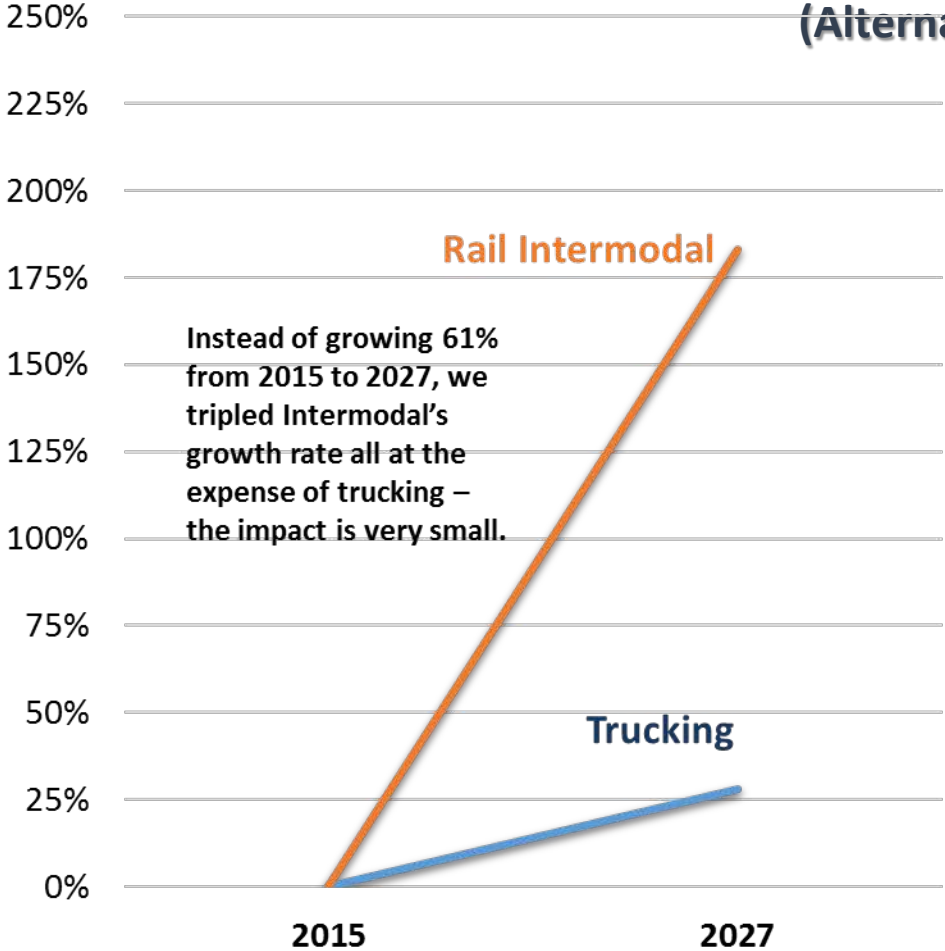
(Alternative Forecast #1)



Sources: ATA & U.S. Freight Transportation Forecast to 2027

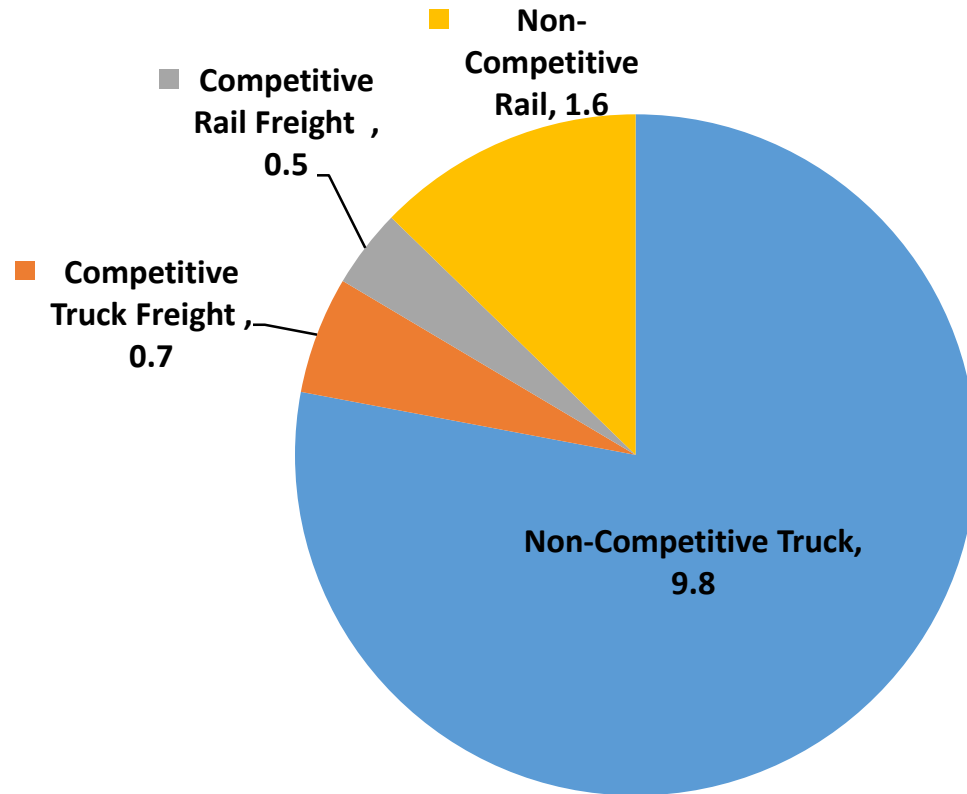
Tonnage Growth 2015 to 2027 & Market Share in 2027

(Alternative Forecast #2)



Sources: ATA & U.S. Freight Transportation Forecast to 2027

2015 Competitive Freight Among Truck and Rail Tonnage



Note: Maximum competitive freight is 1.2 billion tons in a total market (truck and rail only) of 12.6 billion tons, or less than 10%. Competitive freight includes all freight traveling at least 500 miles, but excludes coal tonnage. **There is a significant amount of time definite freight in this category that really isn't competitive, but it is included.** So in reality, the competitive market is even smaller than suggested here.

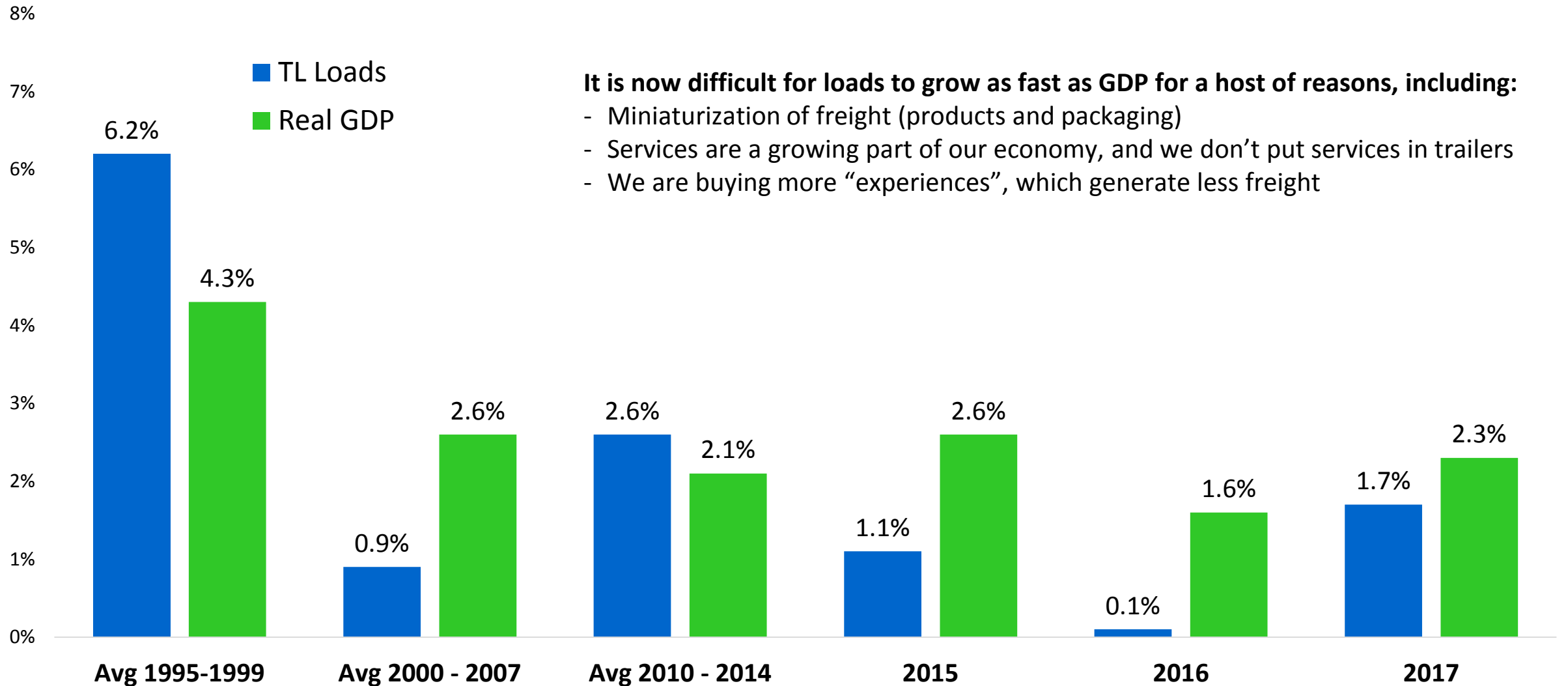
Billions of Tons

**FACT: Trucks and Trains
Compete on a Very
Limited Basis**

Source: ATA Analysis based on Commodity Flow Survey (US Census Bureau) data and
US Freight Transportation Forecast to 2027

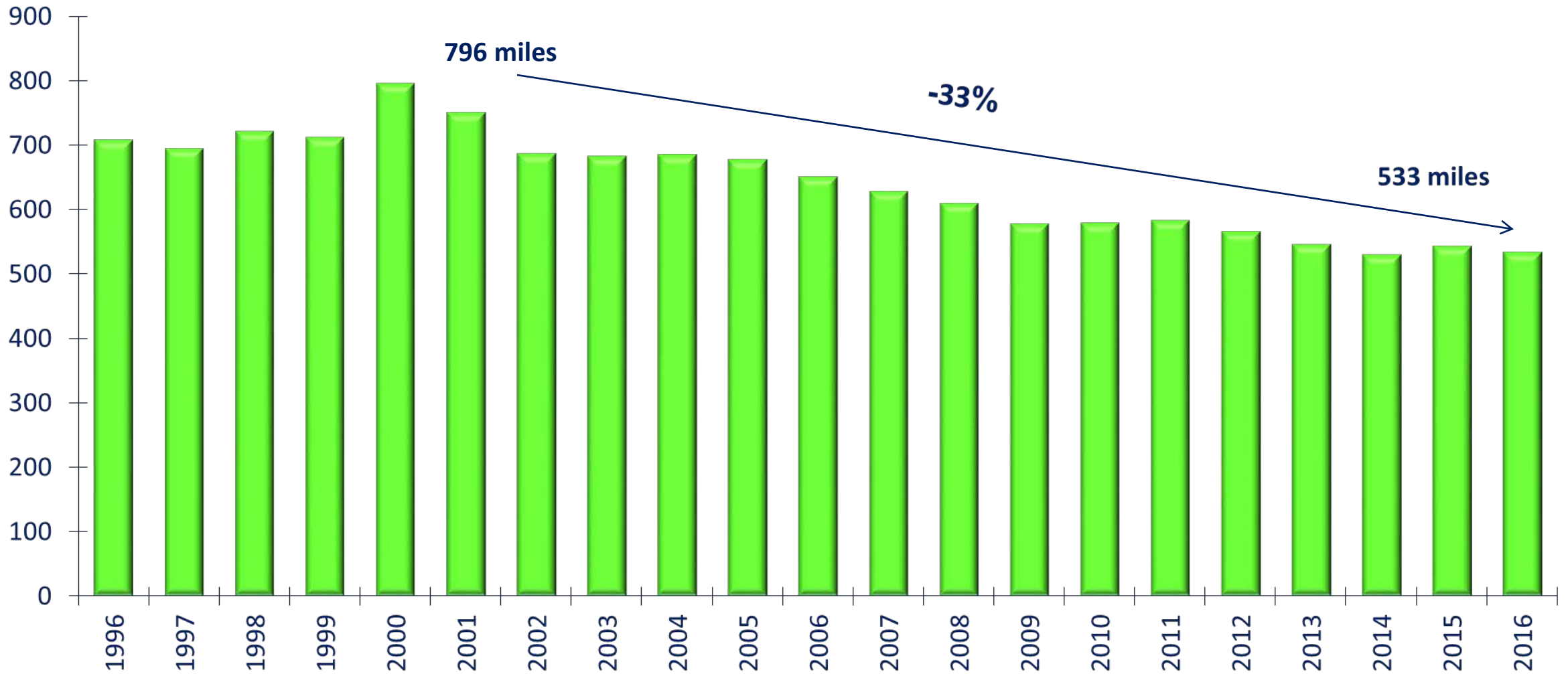
Recent Trends Impacting the Industry

Growth in Truckload Loads vs Real GDP



Source: ATA

Dry Van Average Length-Of-Haul is Down



Source: ATA

Patrick Browne

Global Sustainability Director
UPS

Patrick Browne serves as Director of Global Sustainability for UPS, a global leader in logistics, offering a broad range of solutions including the transportation of packages and freight. He is responsible for managing various sustainability initiatives and strategies' working with cross-functional teams from various business units within the company. Patrick has been managing UPS's sustainability programs since 2008, which includes calculating and reporting UPS's global GHG inventory and reductions. Patrick joined UPS 28 years ago and has held various assignments throughout the company.

Patrick is active with many agencies and organizations focused on advancing sustainability practices around the world. He resides in Atlanta Georgia with his wife.





Supply Chain Logistics & the e-commerce Boom

March, 2017

Patrick Browne – Director, Global Sustainability



Global Trends Impacting Supply Chain Logistics





**More
Residential
Deliveries**

**More
Stops**

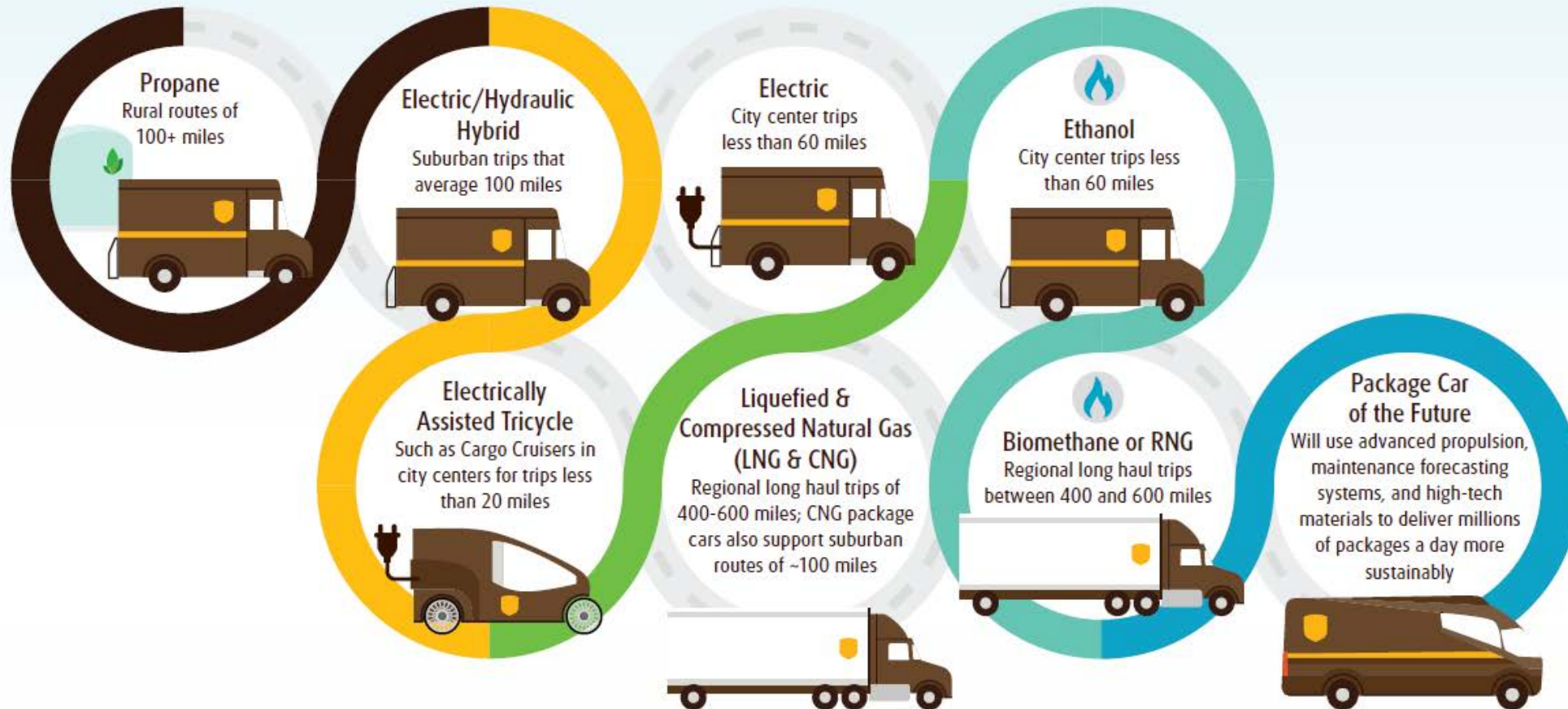
**More
Miles,
Fuel and
Emissions**



UPS Rolling Laboratory

A diverse fleet of alternative fuel and advanced technology vehicles.

Through our rolling laboratory, we can determine how alternative fuels and advanced technologies perform in real-world operating conditions, quickly deploy viable options at scale, and spur market growth for alternative solutions.







A More Sustainable Shipping Journey

We know many of our customers want to ship more, with less impact. We offer sustainable solutions to help minimize the environmental impacts associated with their supply chains.



1. Analyzing

Carbon Impact Analysis helps customers understand the climate impact of UPS shipments. We use the findings to offer optimization techniques that improve efficiency and reduce impact.

2. Packing

Our **Eco Responsible Packaging Program** recognizes shippers who are committed to sustainable packaging. Shippers who meet criteria for damage prevention, appropriate sizing, and packaging material can participate. We also offer a packaging solution that enables customers to create a right-sized box for any item.



3. Shipping

UPS carbon neutral shipping is an easy, cost-effective way to offset GHG emissions from shipments of any size. With **UPS Smart Pickup**® service, customers can schedule a pickup only when needed, avoiding unnecessary trips and emissions.



5. Returning

We simplify returns for customers and consumers with turnkey packaging, preprinted labels and more than 150,000 convenient drop-off and pickup locations. UPS's reverse logistics solutions also help customers reclaim and refurbish products to be used again.



4. Receiving

UPS My Choice® service enables customers to adjust delivery times or locations, while **UPS Access Point**™ locations enable centralized pickup. These solutions increase customer convenience and help avoid unnecessary trips, miles, and emissions.





Thank you





Carla Stickler

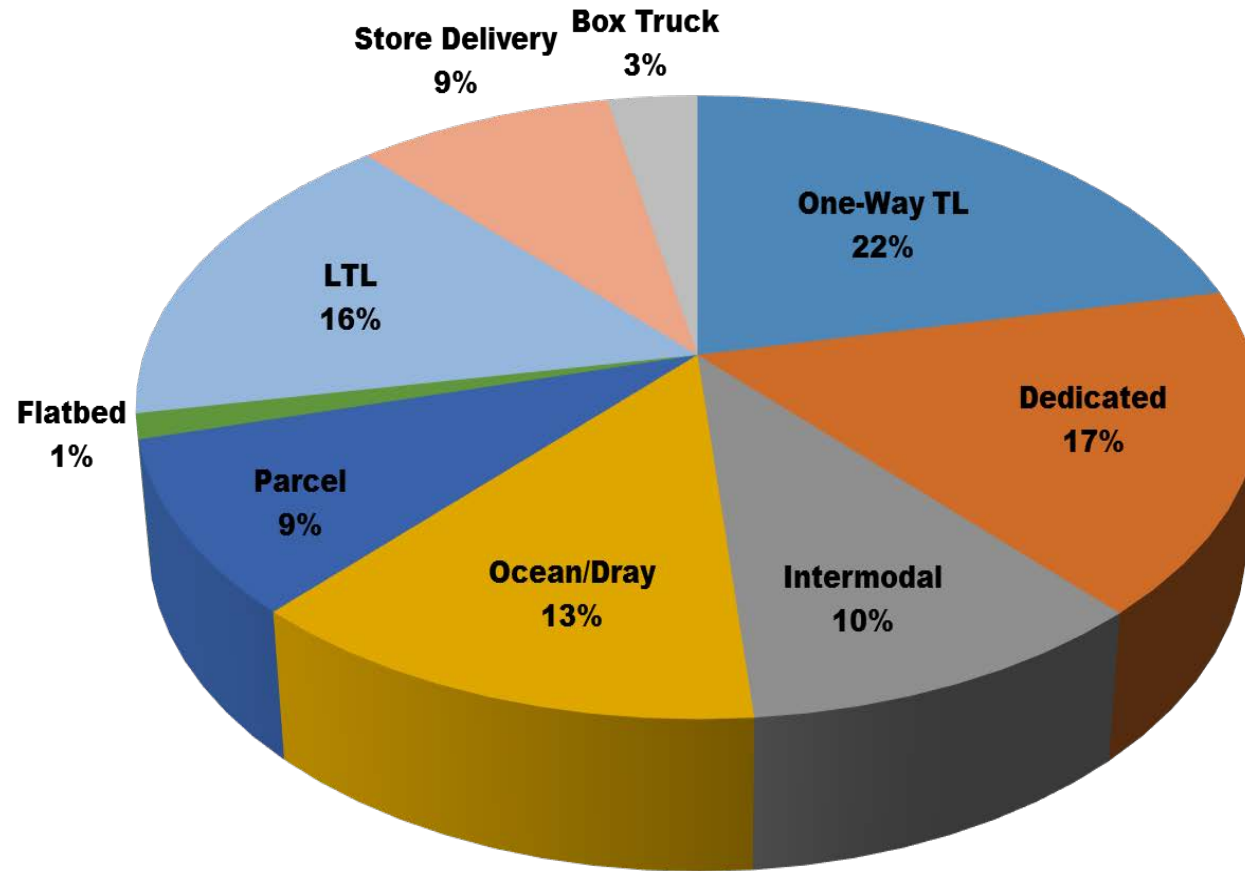
Senior Analyst
Carrier Relations and Solutions
Home Depot Supply Chain

With over 9 years of experience in privately owned and global multi-billion dollar corporations, Carla has developed an in depth knowledge of integrating transportation sourcing solutions and process improvement strategies across various Supply Chain platforms. In her current role at The Home Depot, she also serves as Mentor for the EPA to 'coach' new suppliers on the SmartWay® Program.





Mode by Spend for Domestic and Online Channels



THD Moves ~9 Million Shipments/Loads Each Year



Supply Chain Carbon Emission

Six Year Results:

- Reduced Emission by over 30%
- Increased shipped inventory by 50%
 - Network Optimization Efforts
 - Improved Cube utilization
 - Shifting LTL to Truckload
 - Truckload Conversion to Rail



Results:



Eliminated
200 Million Travel
Miles

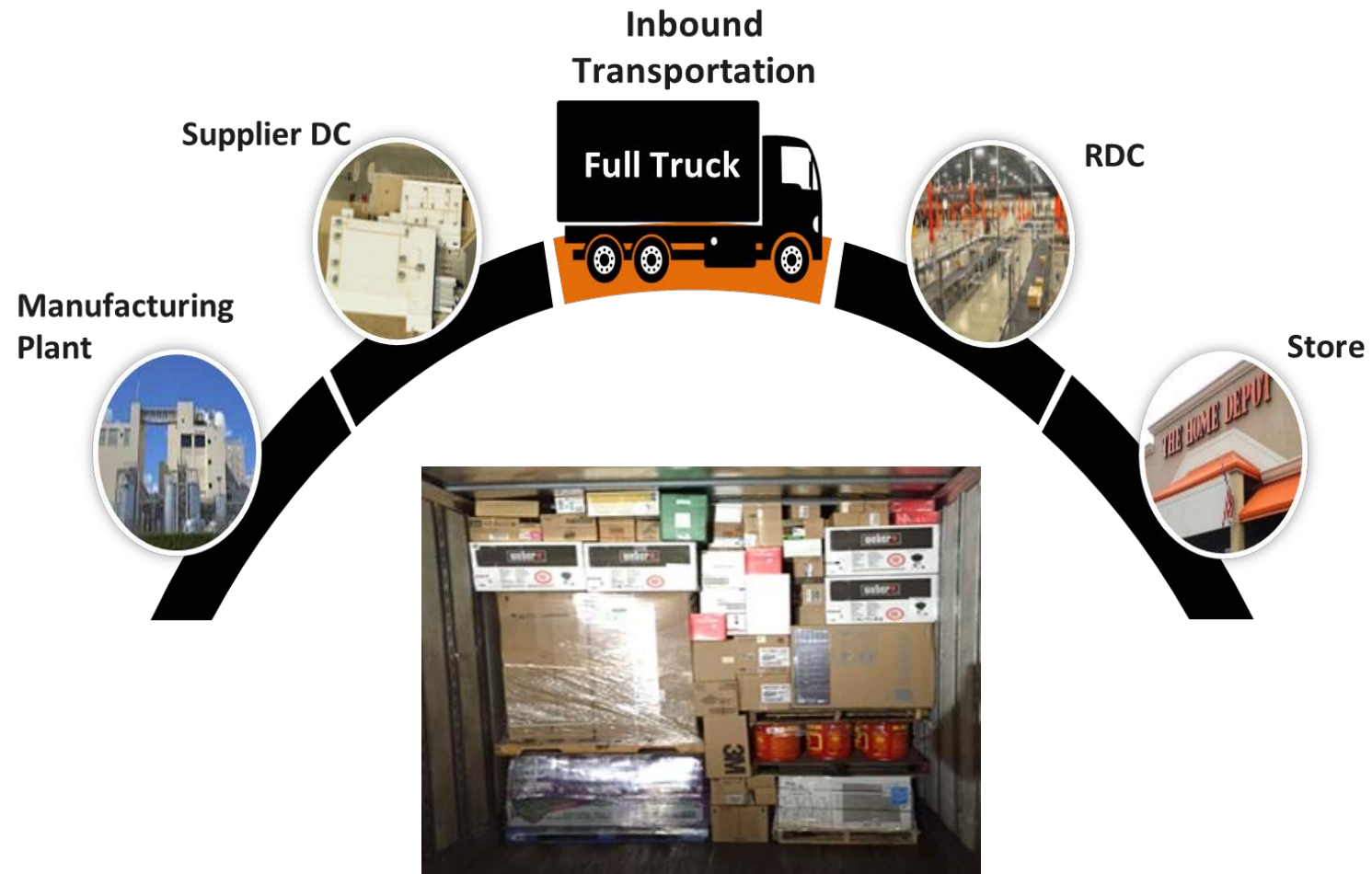


Eliminated over 1
Million Metric Tons
of Carbon

Supply Chain Transformation

	<u>Prior to 2007</u> <u>% of COGS</u>		<u>2015</u> <u>% of COGS</u>
RDC			~50%
Stocking & Bulk	~30%		~20%
			
Direct to Store	~70%		~30%

Synchronize Flow and Manual Floor Load



Transportation Modal Shifts

- **2014**
 - 22K truckloads to Intermodal Rail
 - Inbound Freight Consolidation - LTL to Truckload
 - Removed 22 million miles of truck travel

- **2015**
 - 5K truckloads to Intermodal Rail
 - Removed 4.8 million miles of truck travel

- **2016**
 - Multi-Stop Truckload from Vendors
 - Removed 18 million miles of truck travel



Direct Fulfillment-Online

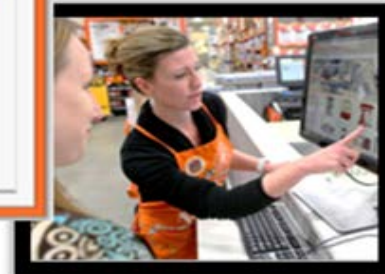


DF DC Network



~6%
of sales occur online,
but...

~50%
of sales
involve online





SmartWay®

EPA's SmartWay® Excellence Award in 2016, 4th year in a row!

- SmartWay® Partner since 2004
- THD has won SmartWay® Excellence Award in 2009, 2013, 2014, 2015, and 2016
- Score our carriers based on compliance to SmartWay® program requirements
- Serving as a Mentor for the EPA to 'coach' new supplier on the SmartWay® Program





Questions?

