



**JamesHardie**

# SUPPLY CHAIN

Ryan Kilcullen

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# AGENDA

- Supply Chain at JH
- Network Expansion Impact
- Customer Focus
- Freight Market and JH Performance



# **JH SUPPLY CHAIN OVERVIEW**

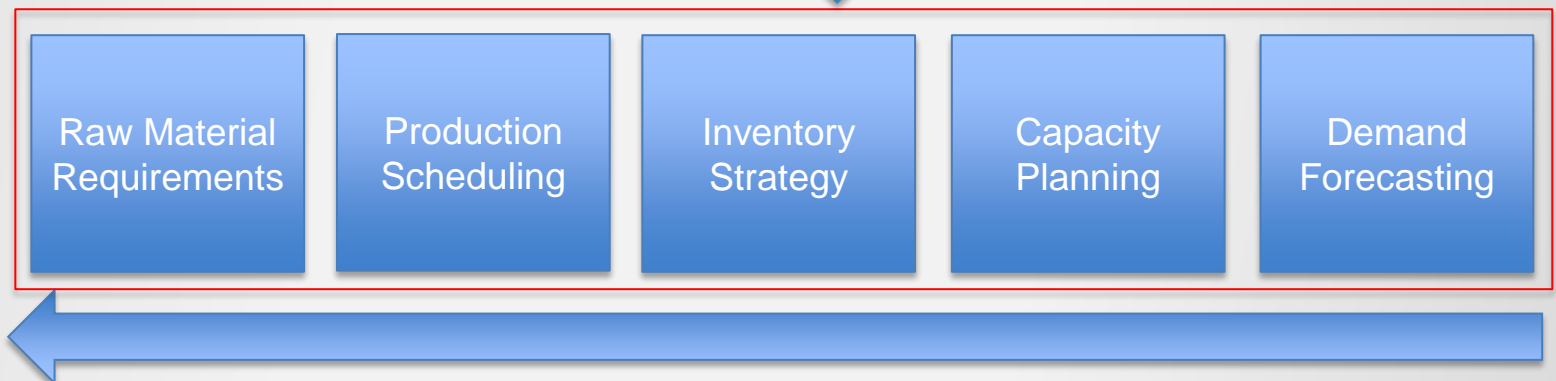
# JH SUPPLY CHAIN

## Managing the three flows: Product, Information and Cash Flow

### Product Flow



### Information Flow



## JH Supply Chain Organization





# JH SUPPLY CHAIN OBJECTIVES

## **JH Supply Chain has two primary objectives**

1. Customer value creation
2. Operational and financial efficiency

## **We accomplish by**

- Leveraging our network scope and operating capability to enhance the profitability and experience of our customers
- Deploying optimization concepts and tactics to maximize financial returns to JH





## EXAMPLE 1: VMIs

***VMIs are a critical element of our overall business strategy***

### **Customer Value Creation**


- Significant reduction in working capital
- Wider SKU offering
- Reduced order processing costs – JH does all replenishment activities
- Ability to place LTL special orders

### **Optimizing JH Returns**

- Lower freight costs
  - Weight max, ideal sourcing, lead time
- Order volatility is greatly reduced
- Increase in C+ penetration
- Enables scale for jobpack LTLs

***VMIs increase the profitability of our channel partners***





## EXAMPLE 2: JOBPACKS

***Jobpacks enable full wrap ColorPlus through an efficient supply chain***

### **Customer Value Creation**

- To-the-piece ordering capability reduces jobsite waste and returns cost
- Made-to-order at standard lead-times eliminates the need for inventory
- Access to the full JH line enables selling the whole house

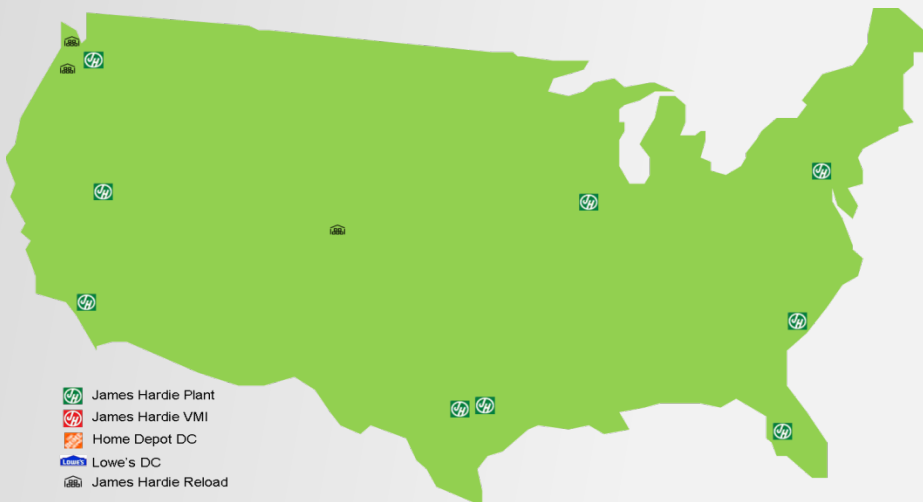
### **Optimizing JH Returns**

- HardieLink enables efficient order flow
- APO scheduling creates efficient manufacturing sequencing and changeovers
- Manugistics TMS optimizes multi-stop routing & leverages VMI volume scale

***The efficiency of our jobpack supply chain enables a competitive advantage by delivering “the tail” at an unmatched cost-to-service***

# JH NETWORK EVOLUTION

## JH Network – FY05



## Customer Value Creation

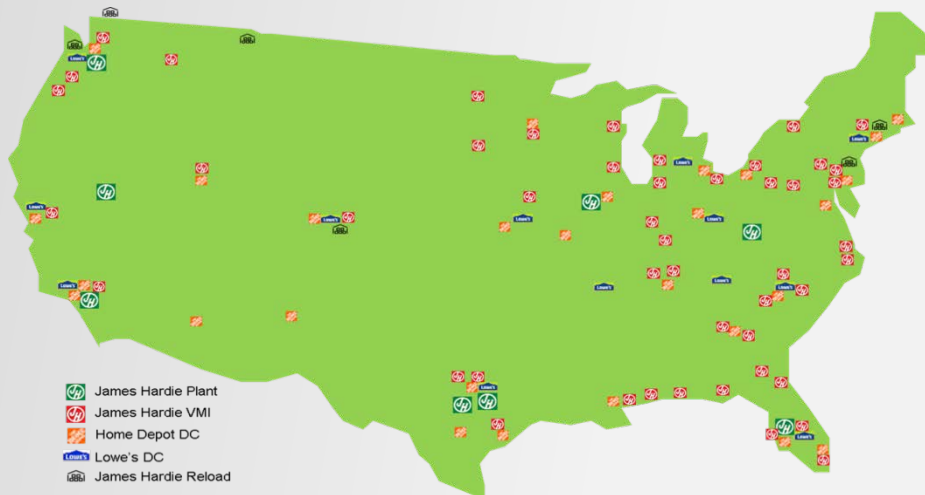
- Limited non-product value creation in JH supply Chain
- Product mixing rules force complexity onto our customer base

## Optimizing JH Returns

- Production scheduling is focused on enabling flat sheet Pcl/Pdl
- Freight model is optimized for full truckload purchasing performance

# JH NETWORK EVOLUTION

## JH Network – Today



## Customer Value Creation

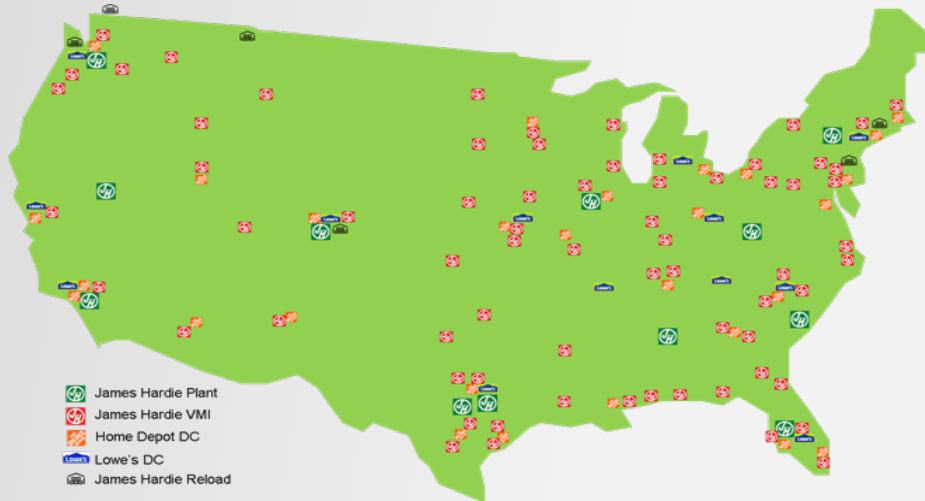
- Network density enables flexible ordering rules to mix full range of products
- VMIs and jobpacks create profitable options for servicing all builder types

## Optimizing JH Returns

- Focus is on internal JH optimization of production scheduling and freight routing
- Expanded scope of JH network enables significant reduction of average truck haul

# JH NETWORK EVOLUTION

## JH Network – 35/90



## Customer Value Creation

- Customer-focused value chain makes JH an easy-to-work with Business Partner
- Deeper understanding of non-product value enhances customer profitability

## Optimizing JH Returns

- Integrated supply chain (raw materials to market) enables true optimization
- Efficiency focus is on inbound/outbound opportunities and deep customer partnerships



# CHALLENGES OF INCREASING NETWORK SCALE

**A growing network also brings supply chain challenges**

**Capturing the full benefit of scale requires:**

1. A step change in organizational capability
2. Optimization logic in our daily supply chain operations

# ORGANIZATIONAL CAPABILITY

**Attract, develop and retain supply chain talent that can manage the challenges of our 35/90 network**

## 5 Pillar Strategy

**Recruit**

**Engage**

**Develop**

**Evaluate**

**Grow/Promote**

**External  
Technical  
Expertise**

**Leverage the  
Chicago MBA  
Program**

**Customer  
Operations as  
a Pipeline**

**Connection to  
the Business  
Speaker Series**

**JHMT Lunch  
events**

**Early-Career  
“Next Steps”  
Events**

**APICS  
Technical  
Development  
Program**

**PG&D Goal  
Setting and  
Progress  
Tracking**

**Quality  
Performance  
Management**

**In-Role Career  
Progression  
Mapping**

**Manufacturing  
Experience  
Assignment  
Pilot**



# PROCESS CAPABILITY

**Capturing the opportunities of a highly integrated network requires enhanced operating capabilities**

## Order Flow

- Integration with customer ERPs
- HardieLink
- VMI Transaction Automation

## Planning Processes

- Flat sheet scheduling logic
- APO deployment
- Network landed cost optimization

## Freight Management

- Multi-stop optimization
- Purchasing model enhancements



# PROCESS ENHANCEMENT EXAMPLE

*Automated order flow systems enable jobpack fulfillment with high organizational, manufacturing and freight cost efficiency*

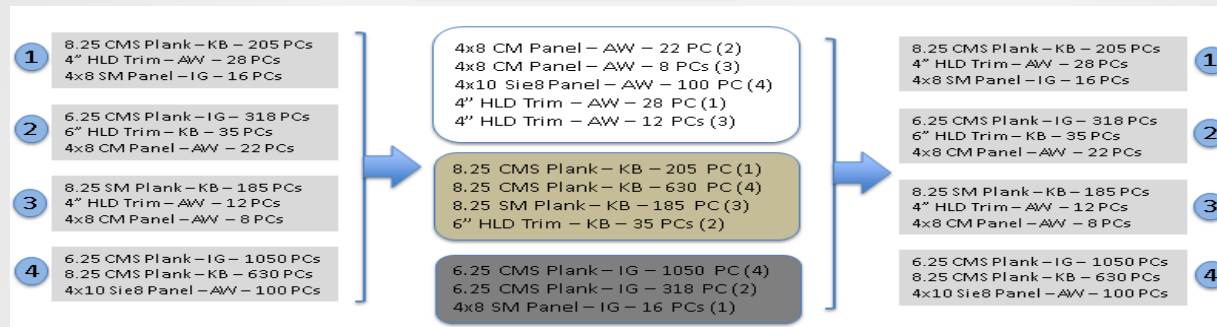
HardieLink  
Order Entry  
System

## APO Production Scheduling Optimization

Customer  
orders with  
multiple SKUs  
& colors

Automated,  
optimized  
sequencing

Re-aggregated  
orders, ready  
for shipment



TMS Multi-Stop  
Optimizer

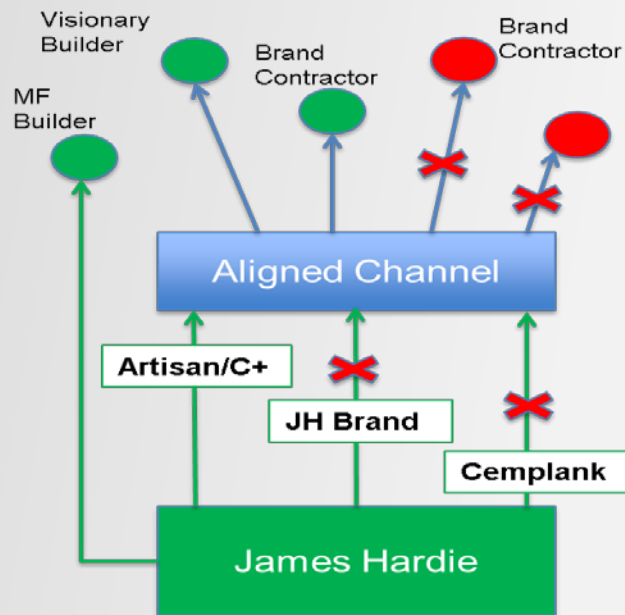


# **CUSTOMER VALUE INITIATIVE: ON-TIME SERVICE**

# THE IMPORTANCE OF CONSISTENT SERVICE

Consistent on-time performance critical component of enabling 35/90

## Importance to the Channel



## Importance to Hardie

- Secures market position
- Enables us to capitalize on our sales force investment
- Maintains our brand
- Reduces waste in our internal organization – allows us to invest in growth, rather than maintenance of our existing base

On-time service performance requires a systematic approach to capacity management and day-to-day operational planning

# ENSURING SUFFICIENT CAPACITY FOR DEMAND

**Constant network balancing ensures we have sufficient production capacity to meet customer demand**

## Regional Sourcing Zones



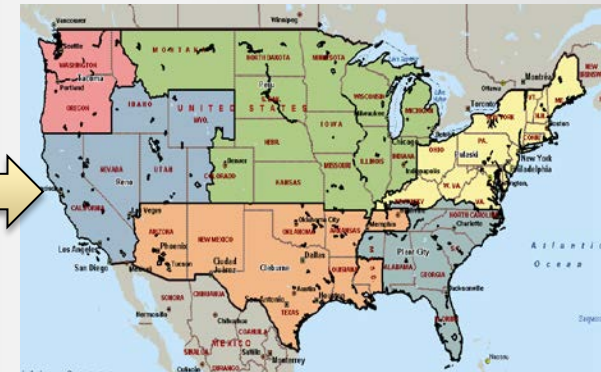
Customer demand is grouped into sourcing zones

## Lowest Cost Sourcing



Manufacturing & freight costs determine "ideal" source plant

## Actual Network Sourcing



Introducing manufacturing capacities shifts the model

**Our objective is to fulfill every customer order at the lowest landed cost, with a high level of on-time service**

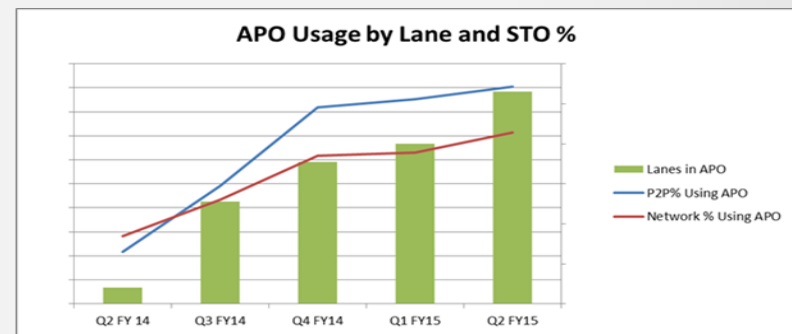
# OPERATIONAL EXCELLENCE IN ORDER FULFILLMENT

A strong customer focus drives our daily replenishment activities

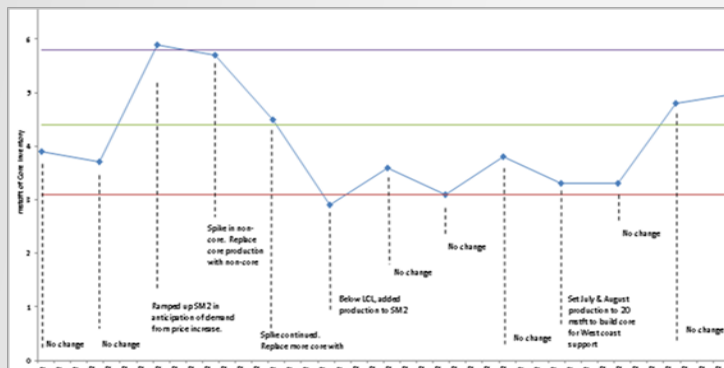
## Leading Indicators

PERSPECTIVE	KPI DETAILS			Week 4 Goal	WE 8/8	WE 8/15	WE 8/22
	KPI CODE	KPI	Metric				
SERVICE	1.3	>80% 4-Day Reservation	Metric				
	1.4	>80% On-Time Transfers	Metric				
	1.5	>80% TTI 8-Day Reservation	Metric				
	1.8	>80% Schedule Adherence	Metric				
CAPACITY & INVENTORY MANAGEMENT	2.1	>80% Inventory in Bands	Metric				
	2.2	>80% Inventory Efficiency	Metric				
	2.3	<80% Cycle Count Adjustment	Metric				
	2.5	Color Cycle Compliance	Metric				

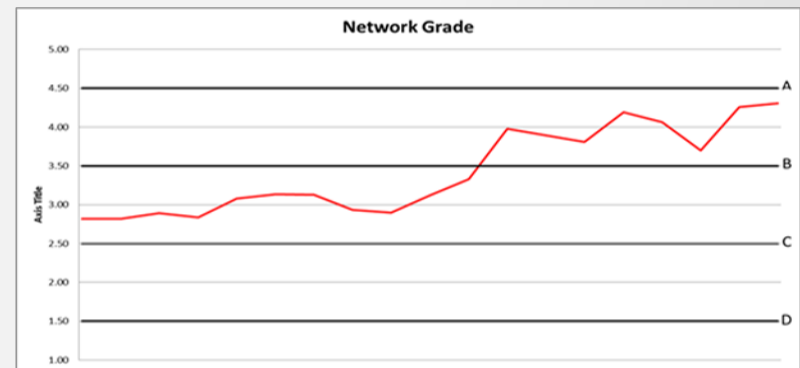
## Automating Processes



## Quick Reactions to Trends



## Organizational Ownership





## ON-TIME SERVICE SUMMARY

- On-time service is an important component of JH Customer Focus and has a direct link to 35/90
- Our supply chain systems are designed for on-time service at optimized total landed cost
- Our recent performance has been strong – the most recent 3 quarters are our highest service performance in the last 5 years
- Consistent on-time service enables us to continue to pull buffers out of our supply chain – resulting in further cost reductions

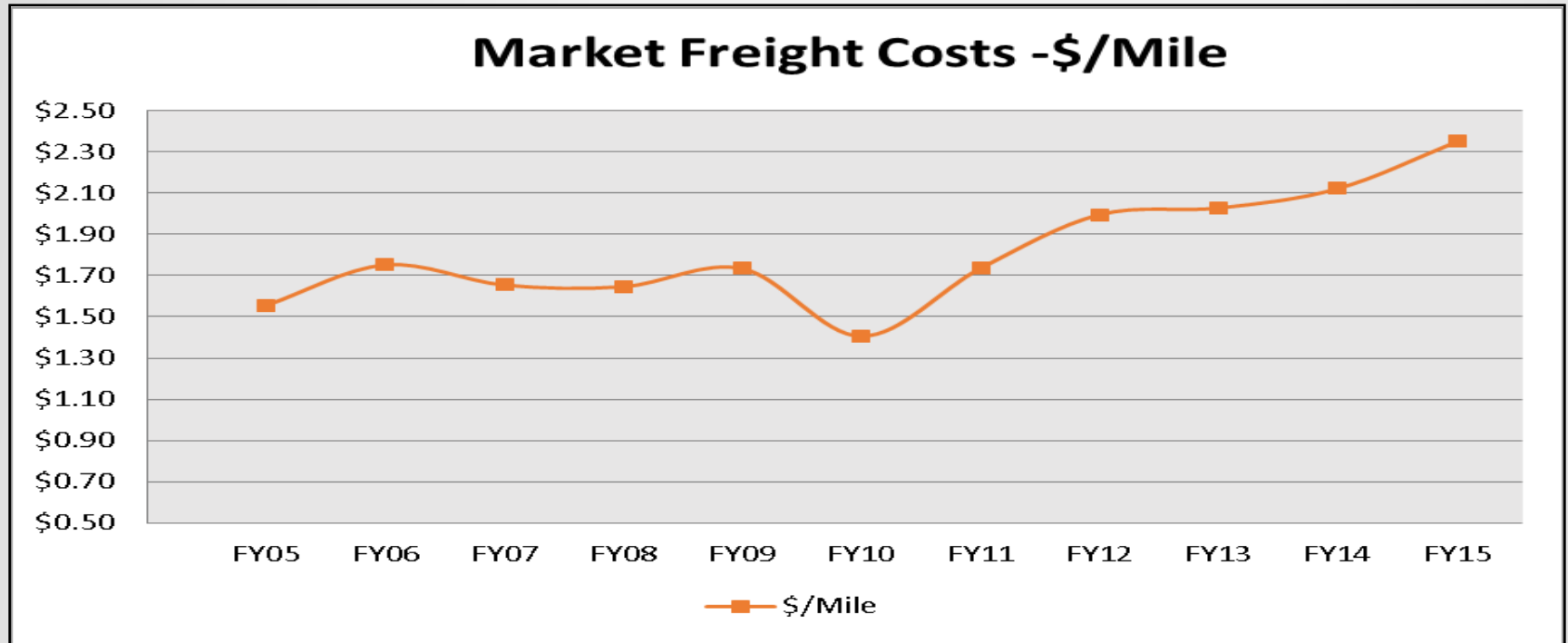


# **MAXIMIZING JH RETURNS: MANAGING THE RISING TRANSPORTATION MARKET**



# EXTERNAL TRANSPORTATION COST

Market rates\* have rebounded dramatically from recession-levels



External factors are driving freight costs to historic highs

\*Source: KeyBanc Capital Markets Truckload Spot Index

# HEADWINDS IN THE FREIGHT MARKET

## Fundamental shifts in the demand/supply equation driving cost

### Demand Drivers



Post-recession economic recovery



- Increasingly congested rail system
- Aging infrastructure = less efficient
  - Growing US petro industry that is becoming rail reliant

### Supply Constraints



Recent regulatory changes that reduce driver capacity



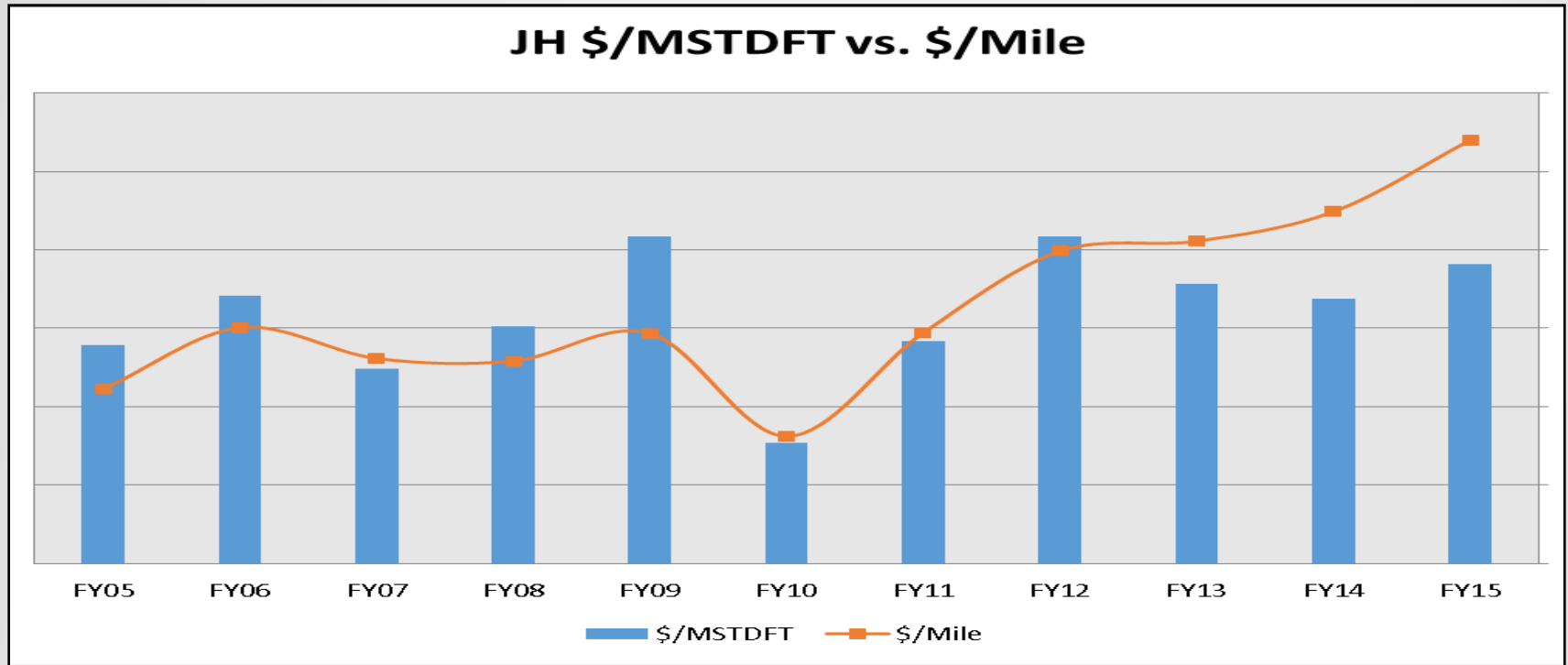
Demographic shifts = an annual net loss of drivers in the workforce



More difficult credit environment limiting capacity investments

The result of this shift will be a higher cost market than historical reference points – ***We do not expect a return to pre-recession costs***

# JH NETWORK AND MARKET FREIGHT COSTS



**FY05 – FY12** JH freight cost trended inline with market rates

**FY13 – FY15** JH freight costs separate from the market trend as a result of multiple initiatives to improve our network efficiency



# PROGRESS DRIVING THE RECENT SEPARATION

## Result

**14% reduction in average length of truckload haul**

**5% more fiber cement on every truckload shipped**

**7% improvement in purchasing performance vs the market**

## How it was Achieved

- Significantly higher utilization of rail
- Plant-to-plant and ColorPlus® product network rail
- VMI-enabled sourcing improvements
- Automated LTL truckload building capability
- VMI-enabled weight maximization program
- Product weight logic optimization
- 26% increase in JHBP brokerage volume
- Pick-up window increase by improved planning
- Targeted lane purchasing program



# JH TRANSPORTATION SUMMARY

- There are significant headwinds in the external freight market
- Network efficiencies have largely offset these costs
- Our ability to continue to off-set this cost pressure will become more reliant on closer partnerships with Customers and Carriers
- JH Supply Chain must continue its hard push to optimize freight costs in our network



# SUPPLY CHAIN SUMMARY



# SUPPLY CHAIN SUMMARY

- JH Supply Chain is focused on delivering customer value while optimizing financial returns
- Our expanding network enables us to maximize both of these objectives – while requiring improved organizational and process capabilities
- FY15 YTD we are delivering on our commitment of Customer Focus
- We expect strong headwinds in the freight market to continue, and we are focused on offsetting the impact on JH financials



# QUESTIONS