Freight Pulse 47 Shipper Survey: TL Pricing Expectations Jump to 2014 Levels

In our latest survey, Shippers' view of the economy continued to improve for the fourth consecutive survey and is now tracking at the sixth highest reading since our survey's inception in 2002 and the highest since September 2006. Across Rail, Truck, and Parcel modes, pricing growth expectations accelerated from FP46, while volume growth expectations broadly decelerated. Specifically, TL price growth expectations increased to the highest level since 2014. Respondents also expect tighter capacity across all transportation modes in six months. Notably, fewer Shippers noted plans to reduce inventory levels relative to our prior survey. Below we provide our key takeaways for general Freight, Rail, Truck, and Parcel.

Freight/Macro Highlights: (1) Shippers' Economic Outlook Continues to Improve Though Still Shy of 2004-07 Levels; (2) Shippers' View of Auto Falls Post Peak; Retail Sees Biggest Improvement; (3) Fewer Shippers Plan to Reduce Inventory Levels Compared to FP46; (4) Respondents Expect Tighter Capacity Across All Modes; (5) Shippers See Deteriorating Service Levels Across Most Modes; Rail and Intermodal See Sharpest Declines; (6) Shippers Willingness to Use “Uber for Freight” Apps Increases to ~35%

Rail Highlights: (1) +1-3% YoY Expected Change in Rail Volume; Volume Index Continues to Decline; (2) ~40% of Shippers Expect a 3-5% YoY Increase in Rail Rates, Up From Our Previous Survey but Pricing Index Remains <2.0; (3) More Shippers Expect to Decrease Rail Spend; Difficulty of Rail Rate Negotiations Increases But Remains Low Relative to Prior Years; (4) Intermodal Discount to TL (Ex. Fuel) Increases, Though Still Below Historical Average; (5) Rail Service Reliability and Value For Dollar Decrease to Lowest Levels Since 2015

Truck Highlights: (1) TL Volume Growth Expectations Decline from FP46, Though Remains Well Above Other Truck Modes; National LTL Sees Biggest Increase; (2) TL Base Rate Expectations Jump to 2014 Levels; (3) Expectations for Tighter Capacity Across All Truck Modes; TL Titest Reading Since December 2014; (4) Fuel Efficiency Continues to be the Most Important Driver to Intermodal Growth; TL Rate Increases Fast Approaching; (5) TL Price Discounts vs. Intermodal Continue to Slip Slightly from Elevated Levels

Parcel Highlights: (1) Ground and Int'l Volume Growth Outlook Decline; Slight Increase in Air; (2) Shippers Anticipate ~2% Average Parcel Base Rate Increase Over Next 6 Months for Air, Ground and Int'l; (3) Shippers' Expectations for B2C as % of Total Parcel Shipment Increase from Prior Survey; (4) Shippers View Price as More Important Driver Than Service for Switching Ground and Air Parcel Carriers, Spread Between Price and Service for Ground Widens; (5) According to Shippers, Discounts Have Increased for FDX Air and Decreased for FDX Ground and UPS Air and Ground from Prior Survey

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Freight Pulse: General Freight and Macro Highlights

General Freight and Macro Highlights
Freight Pulse: General Freight and Macro Key Takeaways

1. Economic Outlook
   - Shippers’ Economic Outlook Continues to Improve Though Still Shy of 2004-07 Levels

2. Economic Outlook by Industry
   - Shippers’ View of Auto Falls Post Peak; Retail Sees Biggest Improvement

3. Inventory & Restocking
   - Fewer Shippers Plan to Reduce Inventory Levels Compared to FP46

4. Capacity Expectations
   - Respondents Expect Tighter Capacity Across All Modes

5. Service Trends
   - Shippers See Deteriorating Service Levels Across Most Modes; Rail and Intermodal See Sharpest Declines

6. Uber for Freight
   - Shippers Willingness to Use “Uber for Freight” Apps Increases to ~35%
1. Shippers’ Economic Outlook Continues to Improve Though Still Shy of 2004-07 Levels

State of the Economy from Shippers’ Perspective

- Strong Economy
- No Change
- Recession

Source: Morgan Stanley Freight Pulse Surveys
2. Shippers’ View of Auto Falls Post Peak; Retail Sees Biggest Improvement

Shippers’ View of the Economy by Industry

Source: Morgan Stanley Freight Pulse Surveys; Note: We did not have any Metals and Mining Respondents in FP47
3. Fewer Shippers Plan to Reduce Inventory Levels Compared to FP46

Shippers' Net Y/Y Orders vs. Net Y/Y Inventory

Source: Morgan Stanley Freight Pulse Surveys
4. Respondents Expect Tighter Capacity Across All Modes

Projected Capacity in 6 Months

Source: Morgan Stanley Freight Pulse Surveys
5. Shippers See Deteriorating Service Levels Across Most Modes; Rail and Intermodal See Sharpest Declines

How would you rate service levels among different modes of transportation for the past 6 months?

![Bar Chart]

- Barge: -0.3 to 0.5
- Ocean: -0.2 to 0.3
- National LTL: -0.5 to 0.2
- Regional LTL: -0.5 to 0.2
- Truckload: -0.4 to -0.1
- Airfreight: -0.3 to 0.2
- Rail (carload): -0.2 to 0.2
- Intermodal: -0.6 to 0.2

Source: Morgan Stanley Freight Pulse Surveys
6. Shippers Willingness to Use “Uber for Freight” Apps Increases to ~35%

If an “Uber for Freight” app offers a commission of about 5%, would you use it instead of a traditional third-party broker?

Respondents who said No: Why would you not use an “Uber for Freight” app to move your shipment?

- Don’t want to use apps to move my freight
- Comfortable with the brokers we use already
- Don’t trust service levels of new entrants
- Other / I would consider once they prove legitimacy

Source: Morgan Stanley Freight Pulse Surveys
Freight Pulse: Railroad Highlights

Railroad Highlights
### Freight Pulse: Rail Key Takeaways

1. **Rail Volume**
   - +1-3% YoY Expected Change in Rail Volume; Volume Index Continues to Decline

2. **Pricing**
   - ~40% of Shippers Expect a 3-5% YoY Increase in Rail Rates, Up From Our Previous Survey but Pricing Index Remains <2.0

3. **Spending**
   - More Shippers Expect to Decrease Rail Spend; Difficulty of Rail Rate Negotiations Increases But Remains Low Relative to Prior Years

4. **Intermodal**
   - Intermodal Discount to TL (Ex. Fuel) Increases, Though Still Below Historical Average

5. **Service Trends**
   - Rail Service Reliability and Value For Dollar Decrease to Lowest Levels Since 2015
1. +1-3% YoY Expected Change in Rail Volume; Volume Index Continues to Decline

YoY Volume Growth Expectations for Next 6 Mo. by Range

Source: Morgan Stanley Freight Pulse Surveys; Note: Mix of rail respondents is skewed toward manufacturing & intermodal and not coal, despite the fact that coal is key to overall rail industry trends
2. ~40% of Shippers Expect a 3-5% YoY Increase in Rail Rates, Up From Our Previous Survey but Pricing Index Remains <2.0

YoY Rate Growth Expectations for Next 6 Mo. by Range

MS Expected Rail Rate Change Index

Source: Morgan Stanley Freight Pulse Surveys; Note: Mix of rail respondents is skewed toward manufacturing & intermodal and not coal, despite the fact that coal is key to overall rail industry trends.
3. More Shippers Expect to Decrease Rail Spend; Difficulty of Rail Rate Negotiations Increases But Remains Low Relative to Prior Years

**Rail Spend Forward 6 Month YoY Growth Expectations**

- All Shippers: 72% decrease, 63% no change, 19% increase
- Large Shippers: 75% decrease, 74% no change, 16% increase
- Small Shippers: 67% decrease, 57% no change, 33% increase

**Rail Rate Negotiations: Rate the Difficulty of Recent Rate Negotiations**

- Source: Morgan Stanley Freight Pulse Surveys; Note: Mix of rail respondents is skewed toward manufacturing & intermodal and not coal, despite the fact that coal is key to overall rail industry trends
4. Intermodal Discount to TL (Ex. Fuel) Increases, Though Still Below Historical Average

What discount is being offered in the marketplace for intermodal services when compared to TL services in a similar lane?
5. Rail Service Reliability and Value For Dollar Decrease to Lowest Level Since 2015

Service Reliability (Scale 1 = Worst to 10 = Best)

Value for Dollar (Scale 1 = Worst to 10 = Best)

Source: Morgan Stanley Freight Pulse Surveys; Note: Mix of rail respondents is skewed toward manufacturing & intermodal and not coal, despite the fact that coal is key to overall rail industry trends.
Freight Pulse: Trucking Highlights

Trucking Highlights
Freight Pulse: Trucking Key Takeaways

1. Truck Volume
   - TL Volume Growth Expectations Decline from FP46, Though Remains Well Above Other Truck Modes; National LTL Sees Biggest Increase

2. Pricing
   - TL Base Rate Expectations Jump to 2014 Levels

3. Capacity
   - Expectations for Tighter Capacity Across All Truck Modes; TL Tightest Reading Since December 2014

4. Intermodal Use
   - Fuel Efficiency Continues to be the Most Important Driver to Intermodal Growth; TL Rate Increases Fast Approaching

5. Intermodal Cost
   - TL Price Discounts vs. Intermodal Continue to Slip Slightly from Elevated Levels
1. TL Volume Growth Expectations Decline from FP46, Though Remains Well Above Other Truck Modes; National LTL Sees Biggest Increase

Source: Morgan Stanley Freight Pulse Surveys
2. TL Base Rate Expectations Jump to 2014 Levels

Indicate the YoY % Change You Expect in Your Organization’s Base Rates

Morgan Stanley Freight Pulse Surveys

Source: Morgan Stanley Freight Pulse Surveys
3. Expectations for Tighter Capacity Across All Truck Modes; TL Tightest Reading Since December 2014

What are your Expectations for Capacity in 6 Months?

Source: Morgan Stanley Freight Pulse Surveys
Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
4. Fuel Efficiency Continues to be the Most Important Driver to Intermodal Growth; TL Rate Increases Fast Approaching

**What Factors are Impacting Your Use of Intermodal Most?**

- TL Rates Have Risen to Point Where Intermodal Is Competitive: 5.4, 5.7, 5.8, 6.0
- Intermodal is more fuel efficient: 6.3, 6.5, 6.9, 6.6
- Turning to the Intermodal Alternative More Often During Periods of Tight Capacity: 4.8, 5.5, 5.7, 5.8
- Railroad Intermodal Service Has Improved: 5.6, 5.5, 5.9, 5.2
- Strong Import Growth: 4.3, 4.6, 4.7, 4.8
- Strong Export Growth: 4.2, 4.4, 4.7, 4.6

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**“Value for the Dollar” for Each Mode**

- Barge: 6.6, 6.9, 7.1
- Ocean: 6.6, 7.0, 6.9
- Intermodal: 7.2, 7.3, 6.9
- Regional LTL: 6.8, 6.9, 6.8
- Truckload: 7.2, 7.0
- National LTL: 6.2, 6.0, 6.2
- Rail (carload): 7.0, 6.7, 5.9
- Airfreight: 6.0, 5.9, 5.8

*Source: Morgan Stanley Freight Pulse Survey*
5. TL Price Discounts vs. Intermodal Continue to Slip Slightly from Elevated Levels

What Factors are Limiting your Organization from Shipping More Volume on the Railroads?

Source: Morgan Stanley Freight Pulse Surveys
Parcel Highlights
Freight Pulse: Parcel Key Takeaways

1. Parcel Volumes
   - Ground and Int’l Volume Growth Outlook Decline; Slight Increase in Air

2. Pricing
   - Shippers Anticipate ~2% Average Parcel Base Rate Increase Over Next 6 Months for Air, Ground and Int’l

3. B2C
   - Shippers’ Expectations for B2C as % of Total Parcel Shipment Increase from Prior Survey

4. Switching
   - Shippers View Price as More Important Driver Than Service for Switching Ground and Air Parcel Carriers, Spread Between Price and Service for Ground Widens

5. Rate Discounts
   - According to Shippers, Discounts Have Increased for FDX Air and Decreased for FDX Ground and UPS Air and Ground from Prior Survey
1. Ground and Int’l Volume Growth Outlook Decline; Slight Increase in Air

Source: Morgan Stanley Parcel Survey
2. Shippers Anticipate ~2% Average Parcel Base Rate Increase Over Next 6 Months for Air, Ground and Int’l

Average Base Rate Expectations “Over the Next 6 Months” vs. Last Year

Includes All responses, equally-weighted. Source: Morgan Stanley Parcel Survey
3. Shippers’ Expectations for B2C as % of Total Parcel Shipment Increase from Prior Survey

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</table>

Source: Morgan Stanley Parcel Survey
4. Shippers View Price as More Important Driver Than Service for Switching Ground and Air Parcel Carriers, Spread Between Price and Service for Ground Widens

Source: Morgan Stanley Parcel Survey

Ground: Reason for Switching Primary Carriers

Air: Reason for Switching Primary Carriers

Source: Morgan Stanley Parcel Survey
5. According to Shippers, Discounts Have Increased for FDX Air and Decreased for FDX Ground and UPS Air and Ground from Prior Survey

Source: Morgan Stanley Parcel Survey
Appendix
Part 1: About the Surveys
1. General Freight
2. Rail Industry
3. Truck Industry
4. Parcel Industry
General Freight: About the Freight Pulse Survey

Notes: just those shippers providing an industry classification and spend. Source: MS Freight Pulse Surveys

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Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
General Freight: Segmented by Shipper Profile

Modes Used

- Trucking, 66%
- Railroads (including Intermodal), 2%
- Both Trucking and Railroads (including Intermodal), 32%

Respondents’ Total Spend

- $5 MM to $40 MM, 71.1%
- $5 MM to $40 MM, 71.1%
- $40 MM+, 6.7%
- $500k to $1MM, 3.4%
- $100k to $500k, 2.0%
- < $100k, 8.7%
- $1MM to $5MM, 8.1%

Note: just those shippers providing an industry classification and spend. Source: MS Freight Pulse Surveys
Rails: Segmented by Industry and Shipper Profile

Rail Respondents by Industry

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<td>Mining</td>
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Respondents’ Rail Spend

- Over $20mm, 39%
- $0 - $100k, 5%
- $100 - $500k, 11%
- $500k - $1mm, 3%
- $1 - $5mm, 16%
- $5 - $20mm, 26%

Source: Morgan Stanley Freight Pulse Surveys
Trucks: Segmented by Industry and Shipper Profile

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Parcel: About Our Parcel Survey

Respondents' Parcel Spend

- $20MM+, 16%
- $0 to $100k, 23%
- $5 MM to $20 MM, 14%
- $100k to $500k, 15%
- $1MM to $5MM, 24%
- $500k to $1MM, 7%

Respondents' Primary Business

- Manufacturing: 28%
- 3PL Provider: 22%
- Other: 19%
- Wholesale / Distribution: 18%
- Consultant: 8%
- Retail: 4%

Source: Morgan Stanley Parcel Survey
Parcel: Respondent Profile

Company Sales ($MM)

- $1,000+, 38%
- $100 - $1,000, 16%
- $51 - $100, 11%
- $26 - $50, 5%
- $11 - $25, 8%
- $0 to $10, 22%

Parcels Shipped

- 0 - 100k, 42%
- 100k - 500k, 22%
- 500k - 1MM, 12%
- 1MM - 5MM, 9%
- 5MM+, 15%

Source: Morgan Stanley Parcel Survey
Parcel: Market Share of Respondents Roughly Consistent with Market

Primary Parcel Carrier – Weighted by Spend

Parcel Carrier – Average of All Responses

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Summary of Contents

Part 1: General Freight Industry Trends
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4. Modal Shift
5. Intermodal vs. Truck

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2. Economic Outlook
Service Reliability & Value by Mode: Average Across All Shippers

"Service Reliability" for Each Mode

"Value for the Dollar" for Each Mode

Source: Morgan Stanley Freight Pulse Surveys
## Capacity by Mode

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<th>Projected Capacity in 6 Months</th>
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### Source:
Morgan Stanley Freight Pulse Surveys
Capacity Ranking Skew: Airfreight

Current Capacity

Airfreight - % of Shippers Providing Rankings

Projected Capacity in 6 Months

Airfreight - % of Shippers Providing Rankings

Source: Morgan Stanley Freight Pulse Surveys
Capacity Ranking Skew: Ocean

Current Capacity

Projected Capacity in 6 Months

Source: Morgan Stanley Freight Pulse Surveys
Capacity Ranking Skew: Rail (Carload)

Current Capacity

Projected Capacity in 6 Months

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Capacity Ranking Skew: Barge

Current Capacity

Projected Capacity in 6 Months

Barge - % of Shippers Providing Rankings

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Truckload to Rail

**Truckload to Rail**

- **Sep 16**: 75% No, 73% Yes, shifting some volume, 69% Yes, shifting a significant amount of volume
- **Jan 17**: 70% No, 59% Yes, shifting some volume, 22% Yes, shifting a significant amount of volume
- **Mar 17**: 25% No, 29% Yes, shifting some volume, 29% Yes, shifting a significant amount of volume
- **Jun 17**: 3% No, 3% Yes, shifting some volume, 2% Yes, shifting a significant amount of volume
- **Sep 17**: 2% No, 4% Yes, shifting some volume, 2% Yes, shifting a significant amount of volume

**Source:** Morgan Stanley Freight Pulse Surveys

**Truckload to Rail - Modal Shift by Spend**

- **Weighted Avg Response**: 91% No, 67% Yes, shifting some volume, 27% Yes, shifting a significant amount of volume
- **< $100k**: 9% No, 33% Yes, shifting some volume, 2% Yes, shifting a significant amount of volume
- **$100k to $500k**: 67% No, 40% Yes, shifting some volume, 31% Yes, shifting a significant amount of volume
- **$500k to $1MM**: 73% No, 40% Yes, shifting some volume, 35% Yes, shifting a significant amount of volume
- **$1MM to $5MM**: 67% No, 29% Yes, shifting some volume, 29% Yes, shifting a significant amount of volume
- **$5MM to $40MM**: 71% No, 35% Yes, shifting some volume, 2% Yes, shifting a significant amount of volume
- **$40MM+**: 64% No, 2% Yes, shifting some volume, 2% Yes, shifting a significant amount of volume

**Source:** Morgan Stanley Freight Pulse Surveys
# Shipper Modal Shift Statistics – Rail to Truckload

## Rail to Truckload

<table>
<thead>
<tr>
<th>No</th>
<th>Yes, shifting some volume</th>
<th>Yes, shifting a significant amount of volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 16</td>
<td>Jan 17</td>
<td>Mar 17</td>
</tr>
<tr>
<td>79%</td>
<td>83%</td>
<td>79%</td>
</tr>
<tr>
<td>19%</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>3%</td>
<td>2%</td>
<td>0%</td>
</tr>
</tbody>
</table>

## Rail to Truckload - Modal Shift by Spend

<table>
<thead>
<tr>
<th>Spend Range</th>
<th>No</th>
<th>Yes, shifting some volume</th>
<th>Yes, shifting a significant amount of volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; $100k</td>
<td>100%</td>
<td>100%</td>
<td>75%</td>
</tr>
<tr>
<td>$100k to $500k</td>
<td>25%</td>
<td>17%</td>
<td>83%</td>
</tr>
<tr>
<td>$500k to $1MM</td>
<td>17%</td>
<td>17%</td>
<td>81%</td>
</tr>
<tr>
<td>$1MM to $5MM</td>
<td>2%</td>
<td>2%</td>
<td>70%</td>
</tr>
<tr>
<td>$5 MM to $40 MM</td>
<td>71%</td>
<td>27%</td>
<td>30%</td>
</tr>
<tr>
<td>$40MM+</td>
<td>2%</td>
<td>2%</td>
<td>70%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Airfreight to LTL

Airfreight to LTL

Source: Morgan Stanley Freight Pulse Surveys

Airfreight to LTL - Modal Shift by Spend

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – LTL to Airfreight

LTL to Airfreight

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Truckload to LTL

**Truckload to LTL**

- **No**: 87%, 86%, 81%, 80%, 78%
- **Yes, shifting some volume**: 11%, 13%, 17%, 18%, 19%
- **Yes, shifting a significant amount of volume**: 2%, 1%, 2%, 2%, 4%

Source: Morgan Stanley Freight Pulse Surveys

**Truckload to LTL - Modal Shift by Spend**

- **< $100k**: 10%, 90%
- **$100k to $500k**: 20%, 100%
- **$500k to $1MM**: 20%, 60%
- **$1MM to $5MM**: 8%, 92%
- **$5MM to $40MM**: 5%, 25%
- **$40MM+**: 4%, 22%
- **No**: 4%, 74%
- **Yes, shifting some volume**: 4%, 60%
- **Yes, shifting a significant amount of volume**: 4%, 60%

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – LTL to Truckload

LTL to Truckload

Source: Morgan Stanley Freight Pulse Surveys

LTL to Truckload - Modal Shift by Spend
Shipper Modal Shift Statistics – Ocean to Rail

Ocean to Rail

- No
- Yes, shifting some volume
- Yes, shifting a significant amount of volume

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Rail to Ocean

Rail to Ocean - Modal Shift by Spend

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Airfreight to Ocean

**Airfreight to Ocean**

![Bar chart showing modal shift statistics for airfreight to ocean.](chart)

- **No**: 90% Sep 16, 91% Jan 17, 88% Mar 17, 90% Jun 17, 91% Sep 17
- **Yes, shifting some volume**: 7% Sep 16, 9% Jan 17, 11% Mar 17, 7% Jun 17, 7% Sep 17
- **Yes, shifting a significant amount of volume**: 3% Sep 16, 1% Jan 17, 1% Mar 17, 1% Jun 17, 4% Sep 17

**Airfreight to Ocean - Modal Shift by Spend**

![Bar chart showing modal shift by spend for airfreight to ocean.](chart)

- **< $100k**: 100%
- **$100k to $500k**: 100%
- **$500k to $1MM**: 80%
- **$1MM to $5MM**: 83%
- **$5MM to $40MM**: 90%
- **$40MM+**: 100%
- **Weighted Avg Response**: 93%

**Source**: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Ocean to Airfreight

Ocean to Airfreight

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Barge to Rail

Barge to Rail

Source: Morgan Stanley Freight Pulse Surveys
Shipper Modal Shift Statistics – Rail to Barge

Rail to Barge

<table>
<thead>
<tr>
<th>No</th>
<th>Yes, shifting some volume</th>
<th>Yes, shifting a significant amount of volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>96%</td>
<td>97%</td>
<td>95%</td>
</tr>
</tbody>
</table>

- Source: Morgan Stanley Freight Pulse Surveys

Rail to Barge - Modal Shift by Spend

- Yes, shifting a significant amount of volume
- Yes, shifting some volume
- No

% of Respondents

- < $100k: 100%
- $100k to $500k: 100%
- $500k to $1MM: 100%
- $1MM to $5MM: 100%
- $5MM to $50MM: 99%
- $50MM to $400MM: 89%
- $400MM+: 97%
- Weighted Avg Response: 97%

Source: Morgan Stanley Freight Pulse Surveys
Intermodal vs. Truck: Intermodal Discount Over Time

What discount is being offered in the marketplace for intermodal services when compared to TL services in a similar lane?
Summary of Contents

Part 1: General Freight Industry Trends
1. Service Trends
2. Capacity Trends
3. Modal Shift
4. Intermodal vs. Truck

Part 2: Macro Trends
1. Inventories and Orders
2. Economic Outlook
Shipper Inventory and Stocking Trends

Shipper Inventories and Orders Relative to Last Year

- **Inventory**
  - Higher: 30%
  - Same: 43%
  - Lower: 10%

- **Ordering**
  - Higher: 41%
  - Same: 49%
  - Lower: 27%

Source: Morgan Stanley Freight Pulse Surveys
Assessing Restocking Potential: Net Inventory Trends and Inventory Plans

Shippers' Net Y/Y Orders vs. Net Y/Y Inventory

Shippers' Inventory Plans

Source: Morgan Stanley Freight Pulse Surveys
Economic Outlook: Average Across All Shippers

State of the Economy from Shippers’ Perspective

[Bar chart showing economic outlook from January 2003 to June 2017, with three categories: Strong Economy, No Change, and Recession.]

Source: Morgan Stanley Freight Pulse Surveys
Economic Outlook: Granular View by Spend and Shipper Industry

State of Economy - All Shippers

<table>
<thead>
<tr>
<th>Industry</th>
<th>Strong Economy</th>
<th>No Change</th>
<th>Recession</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computer / Tech</td>
<td>9.0</td>
<td>8.5</td>
<td></td>
</tr>
<tr>
<td>Financial / Legal Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive</td>
<td>7.0</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Indus Equip / Cap Goods</td>
<td>7.0</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>Electrical Generation</td>
<td>7.0</td>
<td>6.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td>6.8</td>
<td>6.8</td>
</tr>
<tr>
<td>Food and Beverage</td>
<td></td>
<td></td>
<td>6.7</td>
</tr>
<tr>
<td>3PL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retailing</td>
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<tr>
<td>Other Industry</td>
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<tr>
<td>Forest / Building</td>
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<td>Chemical</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td></td>
<td></td>
<td>5.7</td>
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</tbody>
</table>

Source: Morgan Stanley Freight Pulse Surveys
Economic Outlook: View by Industry Over Time

Shippers’ Historical View of the Economy by Industry Segment

- Strong Economy
- No Change
- Recession

Source: Morgan Stanley Freight Pulse Surveys
Summary of Contents

Part 1: Key Rail Trends
1. Volume Trends
2. Rate Trends
3. Spend Trends
4. Pricing Trends
5. Service Trends

Part 2: Special Topics
1. Intermodal
2. Rate Mitigation Efforts
3. Rail Competition
4. Rate Negotiations
5. Rate Cases
6. Support for Legislation
Rail Volume Trends: Forward 6 Month YoY Volume Expectations

YoY Volume Growth Expectations for Next 6 Mo. by Range

MS Expected Rail Volume Change Index

Source: Morgan Stanley Freight Pulse Surveys
Rail Volume Trends: Forward 6 Month YoY Volume Expectations by Segment

YoY Volume Growth Expectations

<table>
<thead>
<tr>
<th>Segment</th>
<th>Increase</th>
<th>Decrease</th>
<th>No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Shippers</td>
<td>51%</td>
<td>23%</td>
<td>26%</td>
</tr>
<tr>
<td>Large Shippers</td>
<td>55%</td>
<td>23%</td>
<td>22%</td>
</tr>
<tr>
<td>Small Shippers</td>
<td>57%</td>
<td>22%</td>
<td>21%</td>
</tr>
</tbody>
</table>

6 Mo. YoY Volume Growth Expectation by Spend

<table>
<thead>
<tr>
<th>Spend Range</th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $100k</td>
<td>0.0%</td>
</tr>
<tr>
<td>$100 - $500k</td>
<td>1.5%</td>
</tr>
<tr>
<td>$500k - $1mm</td>
<td>6.0%</td>
</tr>
<tr>
<td>$1 - $5mm</td>
<td>0.7%</td>
</tr>
<tr>
<td>$5 - $20mm</td>
<td>2.0%</td>
</tr>
<tr>
<td>Over $20mm</td>
<td>-0.4%</td>
</tr>
<tr>
<td>Weighted Avg Response</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Freight Pulse Surveys
**Rail Rate Trends: Forward 6 Month YoY Rate Expectations**

**YoY Rate Growth Expectations for Next 6 Mo. by Range**

<table>
<thead>
<tr>
<th>% of Respondents</th>
<th>0%</th>
<th>0%</th>
<th>0%</th>
<th>4%</th>
<th>0%</th>
<th>30%</th>
<th>26%</th>
<th>40%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range</td>
<td>-15%+</td>
<td>-15% to -11%</td>
<td>-10% to -6%</td>
<td>-5% to -3%</td>
<td>-2% to -1%</td>
<td>No Change</td>
<td>+1% to +2%</td>
<td>+3% to +5%</td>
</tr>
</tbody>
</table>

**MS Expected Rate Change Index**

<table>
<thead>
<tr>
<th>Normalized Expected Rate Trend</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month</td>
<td>F1</td>
<td>F2</td>
<td>F3</td>
<td>F4</td>
<td>F5</td>
<td>F6</td>
<td>F7</td>
<td>F8</td>
</tr>
<tr>
<td>May</td>
<td>2.7</td>
<td>1.9</td>
<td>2.2</td>
<td>1.9</td>
<td>2.6</td>
<td>4.4</td>
<td>4.4</td>
<td>5.6</td>
</tr>
<tr>
<td>June</td>
<td>3.4</td>
<td>3.3</td>
<td>3.5</td>
<td>3.5</td>
<td>2.7</td>
<td>2.7</td>
<td>2.6</td>
<td>4.4</td>
</tr>
<tr>
<td>July</td>
<td>3.1</td>
<td>3.6</td>
<td>3.7</td>
<td>3.6</td>
<td>3.6</td>
<td>2.5</td>
<td>2.5</td>
<td>2.8</td>
</tr>
<tr>
<td>August</td>
<td>2.9</td>
<td>3.2</td>
<td>3.3</td>
<td>3.3</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
<td>3.4</td>
</tr>
</tbody>
</table>

**Source:** Morgan Stanley Freight Pulse Surveys
Rail Rate Trends: Forward 6 Month YoY Rate Expectations by Segment

YoY Rate Growth Expectations

- **All Shippers**:
  - 66% Increase
  - 19% Decrease
  - 4% No Change

- **Large Shippers**:
  - 81% Increase
  - 19% Decrease
  - 4% No Change

- **Small Shippers**:
  - 57% Increase
  - 19% Decrease
  - 4% No Change

6 Mo. YoY Rate Growth Expectation by Spend

- **$0 - $100k**: 2.4%
- **$100 - $500k**: 4.0%
- **$500k - $1mm**: 2.1%
- **$1 - $5mm**: 2.1%
- **$5 - $20mm**: 2.1%
- **Over $20mm**: 2.6%

Weighted Avg Response: 2.4%

Source: Morgan Stanley Freight Pulse Surveys
Rail Spend Trends: Forward 6 Month YoY Spend Expectations

YoY Rail Spend Growth Expectations for Next 6 Mo. by Range

- 0% of respondents expect a spend increase of (30%)+
- 0% expect a spend increase of (30) to (21%)
- 2% expect a spend increase of (20) to (11%)
- 0% expect a spend increase of (10) to (6%)
- 7% expect a spend increase of (5) to (1%)
- 28% expect no change
- 50% expect a spend increase of 1 to 5%
- 11% expect a spend increase of 6 to 10%
- 2% expect a spend increase of 11 to 20%
- 0% expect a spend increase of 21 to 30%
- 0% expect a spend increase of 30%+

Source: Morgan Stanley Freight Pulse Surveys
Rail Spend Trends: Forward 6 Month YoY Spend Expectations by Segment

YoY Spend Growth Expectations

<table>
<thead>
<tr>
<th>Segment</th>
<th>Increase</th>
<th>Decrease</th>
<th>No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Shippers</td>
<td>63%</td>
<td>9%</td>
<td>28%</td>
</tr>
<tr>
<td>Large Shippers</td>
<td>74%</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Small Shippers</td>
<td>57%</td>
<td></td>
<td>43%</td>
</tr>
</tbody>
</table>

6 Mo. YoY Spend Growth Expectation by Spend

<table>
<thead>
<tr>
<th>Spend Range</th>
<th>Expectation</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0 - $100k</td>
<td>3.5%</td>
</tr>
<tr>
<td>$100 - $500k</td>
<td>3.0%</td>
</tr>
<tr>
<td>$500k - $1mm</td>
<td>2.8%</td>
</tr>
<tr>
<td>$1 - $5mm</td>
<td>3.4%</td>
</tr>
<tr>
<td>$5 - $20mm</td>
<td>1.1%</td>
</tr>
<tr>
<td>Over $20mm</td>
<td>1.8%</td>
</tr>
<tr>
<td>Weighted Avg</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Freight Pulse Surveys
Rail Pricing Trends: Renewal Rates

**Expectations for Current Year YoY Pricing Ex-Fuel by Spend**

- **FP 45 (Mar 17)**
- **FP 46 (Jun 17)**
- **FP 47 (Sep 17)**

Source: Morgan Stanley Freight Pulse Surveys
Rail Service Trends: Average Service Levels

Average Service Levels (Scale 1 = Worst to 10 = Best)

Source: Morgan Stanley Freight Pulse Surveys
Rail Service Trends: Detail

Service Reliability (Scale 1 = Worst to 10 = Best)

Value for Dollar (Scale 1 = Worst to 10 = Best)

Source: Morgan Stanley Freight Pulse Surveys
Summary of Contents

Part 1: Key Rail Trends
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3. Spend Trends
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5. Service Trends

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2. Rate Mitigation Efforts
3. Rail Competition
4. Rate Negotiations
5. Rate Cases
6. Support for Legislation
Intermodal: What Factors Are Impacting Your Use of Intermodal Most?

Avg. Response on Scale of 1 (Least Impact) to 10 (Most Impact)

- TL Rates Have Risen to Point Where Intermodal Is Competitive
- Intermodal is more fuel efficient
- Turning to the Intermodal Alternative More Often During Periods of Tight Capacity
- Railroad Intermodal Service Has Improved
- Strong Import Growth
- Strong Export Growth

Source: Morgan Stanley Freight Pulse Surveys
Intermodal: Average % Discount to Truckload Carriers?

Avg. Discount Excl. Fuel

Avg. Excl. Fuel = ~15%
Rate Mitigation: What Have You Done in an Effort to Reduce Railroad Spend?

All Shippers

<table>
<thead>
<tr>
<th></th>
<th>FP 44 (Jan17)</th>
<th>FP 45 (Mar 17)</th>
<th>FP 46 (Jun 17)</th>
<th>FP 47 (Sep 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have Not Made Any</td>
<td>4.5</td>
<td>5.1</td>
<td>5.1</td>
<td>5.1</td>
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<tr>
<td>Changes; are Paying</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Higher Rail Rates</td>
<td>4.7</td>
<td>4.8</td>
<td>5.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Moved Freight to</td>
<td>5.7</td>
<td>5.7</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td>Another Mode (i.e.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truck or Barge</td>
<td>6.0</td>
<td>6.0</td>
<td>5.1</td>
<td>5.1</td>
</tr>
<tr>
<td>Moved Freight to</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Another Railroad</td>
<td>4.4</td>
<td>5.1</td>
<td>5.4</td>
<td>5.1</td>
</tr>
<tr>
<td>Changed Sourcing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facility to Increase</td>
<td>5.5</td>
<td>5.5</td>
<td>5.1</td>
<td>5.0</td>
</tr>
<tr>
<td>Competitive Options</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Strongly Agree

Strongly Disagree

Source: Morgan Stanley Freight Pulse Surveys
Competition: Have You Been Solicited With Competing Bids Offering Lower Rates?

All Shippers

<table>
<thead>
<tr>
<th></th>
<th>Large Shippers</th>
<th>Small Shippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>50%</td>
<td>29%</td>
</tr>
<tr>
<td>Yes, but competition has not been aggressive</td>
<td>38%</td>
<td>21%</td>
</tr>
<tr>
<td>Yes, railroads appear to be competing aggressively on price</td>
<td>27%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Price Competition from Railroads

<table>
<thead>
<tr>
<th></th>
<th>Large Shippers</th>
<th>Small Shippers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>43%</td>
<td>86%</td>
</tr>
<tr>
<td>Yes, but competition has not been aggressive</td>
<td>29%</td>
<td>14%</td>
</tr>
<tr>
<td>Yes, railroads appear to be competing aggressively on price</td>
<td>29%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Freight Pulse Surveys
Rail Rate Negotiations: Rate the Difficulty of Recent Rate Negotiations

Scale of 1 (Least Difficult) to 10 (Most Difficult)

Source: Morgan Stanley Freight Pulse Surveys
Legislation: Do You Expect to Take a More Active Role in Legislative Rail Reform?

**Action on Legislative Rail Reform**

- **All Shippers**:
  - Don't Know: 20%
  - No: 29%
  - Yes: 43%

- **Large Shippers**:
  - Don't Know: 29%
  - No: 29%
  - Yes: 42%

- **Small Shippers**:
  - Don't Know: 29%
  - No: 71%
  - Yes: 20%

**% Respondents Saying "Yes"**

- FP 8 (Mar 05): 50%
- FP 10 (Mar 06): 40%
- FP 12 (Apr 07): 30%
- FP 14 (Mar 08): 20%
- FP 16 (Apr 09): 10%
- FP 18 (Apr 10): 0%
- FP 20 (May 10): 10%
- FP 22 (Jun 11): 20%
- FP 24 (Dec 11): 30%
- FP 26 (Jun 12): 40%
- FP 28 (Dec 12): 50%
- FP 30 (Jun 13): 60%
- FP 32 (Dec 13): 70%
- FP 34 (Jun 14): 80%
- FP 36 (Dec 14): 90%
- FP 38 (Jun 15): 100%
- FP 40 (Dec 15): 90%
- FP 42 (Jun 16): 80%
- FP 44 (Jan 17): 70%
- FP 46 (Jun 17): 60%

**Source:** Morgan Stanley Freight Pulse Surveys
Summary of Contents

Part 1: Key Truck Trends
1. Capacity Trends
2. Volume Trends
3. Rate Trends
4. Overall Spend Trends

Part 2: Special Topics
1. Truckload Freight Index
2. Fuel Surcharge Concessions
3. Limitations on Truck to Rail Conversion
Shipper Measures for Availability of Truck Capacity

Trucking Shipper Responses to “How Would You Currently Characterize the Availability of Equipment?”

**Capacity is:**
- Very Tight
- Balanced
- Abundant

**Source:** Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
**Shipper Expectations for Availability of Truck Capacity**

**Current Capacity**
- **Truckload**: 66% Tight, 31% Balanced, 11% Abundant
- **Intermodal**: 25% Tight, 64% Balanced, 11% Abundant
- **Regional LTL**: 19% Tight, 70% Balanced, 11% Abundant
- **National LTL**: 24% Tight, 65% Balanced, 11% Abundant

**Projected Capacity in 6 Months**
- **Truckload**: 70% Tight, 5% Balanced, 25% Abundant
- **Intermodal**: 33% Tight, 9% Balanced, 9% Abundant
- **Regional LTL**: 28% Tight, 9% Balanced, 9% Abundant
- **National LTL**: 31% Tight, 10% Balanced, 10% Abundant
Capacity: Distribution of Truckload Capacity Rankings

Current Capacity

TL - % of Respondents

Very Tight Abundant

Projected Capacity in 6 Months

TL - % of Respondents

Very Tight Abundant

* Shipper rankings of available capacity where 1 = Abundant and 10 = Very Tight
Source: Morgan Stanley Freight Pulse Surveys
Capacity: Distribution of Regional Less-Than-Truckload Capacity Rankings

Current Capacity

Regional LTL - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>10</th>
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<td>0%</td>
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<td>9%</td>
<td>6%</td>
<td>2%</td>
<td>2%</td>
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Very Tight

Projected Capacity in 6 Months

Regional LTL - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>10</th>
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<td></td>
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<td>8%</td>
<td>39%</td>
<td>17%</td>
<td>13%</td>
<td>9%</td>
<td>3%</td>
<td>3%</td>
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</tbody>
</table>

* Shipper rankings of available capacity where 1 = Abundant and 10 = Very Tight

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Capacity: Distribution of National Less-Than-Truckload Capacity Rankings

Current Capacity

National LTL - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>5%</th>
<th>2%</th>
<th>3%</th>
<th>5%</th>
<th>42%</th>
<th>18%</th>
<th>15%</th>
<th>6%</th>
<th>1%</th>
<th>2%</th>
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</thead>
<tbody>
<tr>
<td>Very Tight</td>
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<td></td>
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Projected Capacity in 6 Months

National LTL - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>4%</th>
<th>2%</th>
<th>3%</th>
<th>6%</th>
<th>34%</th>
<th>20%</th>
<th>14%</th>
<th>13%</th>
<th>2%</th>
<th>2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Tight</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

* Shipper rankings of available capacity where 1 = Abundant and 10 = Very Tight
Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Capacity: Distribution of Intermodal Capacity Rankings

Current Capacity

Intermodal - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>Very Tight</th>
</tr>
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<tbody>
<tr>
<td>1  4%</td>
<td>10 2%</td>
</tr>
<tr>
<td>2  2%</td>
<td>9 6%</td>
</tr>
<tr>
<td>3  6%</td>
<td>8 7%</td>
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<tr>
<td>4  7%</td>
<td>7 19%</td>
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<td>5  38%</td>
<td>6 11%</td>
</tr>
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<td>6  8%</td>
<td>5 19%</td>
</tr>
<tr>
<td>7  4%</td>
<td>4 8%</td>
</tr>
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<td>8  4%</td>
<td>3 2%</td>
</tr>
<tr>
<td>9  2%</td>
<td>2 0%</td>
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</table>

Projected Capacity in 6 Months

Intermodal - % of Respondents

<table>
<thead>
<tr>
<th>Abundant</th>
<th>Very Tight</th>
</tr>
</thead>
<tbody>
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<td>1  4%</td>
<td>10 2%</td>
</tr>
<tr>
<td>2  0%</td>
<td>9 6%</td>
</tr>
<tr>
<td>3  6%</td>
<td>8 7%</td>
</tr>
<tr>
<td>4  7%</td>
<td>7 19%</td>
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<tr>
<td>5  34%</td>
<td>6 11%</td>
</tr>
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<td>6  18%</td>
<td>5 8%</td>
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<tr>
<td>7  16%</td>
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<td>8  9%</td>
<td>3 4%</td>
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<tr>
<td>9  4%</td>
<td>2 0%</td>
</tr>
<tr>
<td>10 4%</td>
<td>1 15%</td>
</tr>
</tbody>
</table>

* Shipper rankings of available capacity where 1 = Abundant and 10 = Very Tight
Source: Morgan Stanley Freight Pulse Surveys
Shipper Growth Expectations by Mode

- **TL**: 71% increase, 11% decrease, 18% no change
- **Regional LTL**: 52% increase, 3% decrease, 45% no change
- **National LTL**: 57% increase, 5% decrease, 38% no change
- **Intermodal**: 54% increase, 9% decrease, 37% no change

Source: Morgan Stanley Freight Pulse Surveys
**Volume Response History**

**Trends in Trucking Shippers’ Expectations Over the Next 6 Months vs. the Same Period in the Prior Year**

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Truckload Volume Detail by Spend, Industry, and Response Skew

Truckload - Y/Y Volume Expectation by Range

Truckload - Avg Volume Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
National LTL Volume Detail by Spend, Industry, and Response Skew

National LTL - Y/Y Volume Expectation by Range

National LTL - Avg Volume Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Regional LTL - Y/Y Volume Expectation by Range

Regional LTL - Avg Volume Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Intermodal Volume Detail by Spend, Industry, and Response Skew

Intermodal - Y/Y Volume Expectation by Range

Intermodal - Avg Volume Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Truck Base Rates Outlook Over The Next 6 Months

Base Rates: Average vs. Weighted Average

- **TL**: Average Change 3.3%, Weighted Average 3.5%
- **Regional LTL**: Average Change 1.8%, Weighted Average 2.2%
- **National LTL**: Average Change 1.9%, Weighted Average 2.4%
- **Intermodal**: Average Change 1.7%, Weighted Average 2.1%

Shipper Rate Expectations by Mode

- **TL**:
  - Increase: 78%
  - Decrease: 4%
  - No Change: 18%
- **Regional LTL**:
  - Increase: 70%
  - Decrease: 4%
  - No Change: 26%
- **National LTL**:
  - Increase: 72%
  - Decrease: 4%
  - No Change: 24%
- **Intermodal**:
  - Increase: 64%
  - Decrease: 8%
  - No Change: 28%

**Source:** Morgan Stanley Freight Pulse Surveys
Base Rate Response History

Trends in Trucking Shippers’ Expectations Over the Next 6 Months vs. the Same Period in the Prior Year”

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
TL Base Rate Detail by Spend, Industry, and Response Skew

Truckload - Y/Y Base Rate Expectation by Range

-15% to -11% 0% 0% 0% 0% 4% 18% 23% 39% 0% 1% 15%+

TL - Avg Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
National LTL Base Rate Detail by Spend, Industry, and Response Skew

National LTL - Y/Y Base Rate Expectation by Range

National LTL - Avg Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Regional LTL Base Rate Detail by Spend, Industry, and Response Skew

Regional LTL - Y/Y Base Rate Expectation by Range

Regional LTL - Avg Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Intermodal - Y/Y Base Rate Expectation by Range

Intermodal - Avg Change by Spend

Source: Morgan Stanley Freight Pulse Surveys
Truck Spend Outlook Over The Next 6 Months

Source: Morgan Stanley Freight Pulse Surveys

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Truck Spend: Change vs. Prior Survey

YoY % Change in You Organization’s Spend Over the Next 6 Months

Source: Morgan Stanley Freight Pulse Surveys
Summary of Contents

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3. Limitations on Truck to Rail Conversion
Morgan Stanley

Morgan Stanley Truckload Freight Index With Straight-Line Forecast

The index measures the demand for Dry-Van Truckload services compared to the number of Dry-Van trucks on the road. The index begins in April 1994. When a given reading is above prior years’ level, it means there is more freight demand relative to available capacity. When a given reading is below prior years’ level, it means there is less freight demand relative to capacity.

Source: Morgan Stanley Research

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
What Factors are Limiting your Organization from Shipping More Volume on the Railroads?

- Rail doesn't support faster inventory turnover
- TL price discounts have offset some of the rail cost differential
- Other Factors

Source: Morgan Stanley Freight Pulse Surveys
Truck to Rail Conversion: Key Obstacles to Overcome

What Factors are Impacting Your Decision to Keep More Volume with Truckload Carriers?

Source: Morgan Stanley Freight Pulse Survey
Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Summary of Contents

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1. Volume Outlook
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5. Changes in Primary Carrier

Part 2: Pricing Trends
1. Outlook for Parcel Base Rates
2. Measures of Aggressiveness
3. Trends in List Rate Discounts
4. Accessorial Charges

Part 3: Service & Value Trends
1. Service Reliability Rankings
2. Value of Service Rankings
Parcel Volume Outlook Over the Next 6 Months

% of Shippers Expecting Air to:

- No Change
- Decrease
- Increase

% of Shippers Expecting Ground to:

- No Change
- Decrease
- Increase

% of Shippers Expecting International to:

- No Change
- Decrease
- Increase

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Volume Trends by Product

Volume Growth Expectations “Over the Next 6 Months” vs. Last Year

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Volume Response Skew – All Shippers

Volume Growth Expectations “Over the Next 6 Months” vs. Same Period Last Year

% of Respondents Expecting

Source: Morgan Stanley Parcel Survey
Volume Growth Outlook by Industry

Air - Avg Change by Industry

Ground - Avg Change by Industry

International - Avg Change by Industry

Source: Morgan Stanley Parcel Survey
Volume Growth Outlook by Listed Primary Carrier

Air - Avg Volume Change by Primary Carrier

<table>
<thead>
<tr>
<th>Primary Carrier</th>
<th>UPS</th>
<th>FDX</th>
<th>USPS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>3.2%</td>
<td>2.0%</td>
<td>0.5%</td>
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</tbody>
</table>

Ground - Avg Volume Change by Primary Carrier

<table>
<thead>
<tr>
<th>Primary Carrier</th>
<th>UPS</th>
<th>FDX</th>
<th>USPS</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>4.8%</td>
<td>4.5%</td>
<td>8.4%</td>
</tr>
</tbody>
</table>

International - Avg Volume Chg by Primary Carrier

<table>
<thead>
<tr>
<th>Primary Carrier</th>
<th>UPS</th>
<th>FDX</th>
<th>USPS</th>
<th>DHL</th>
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</thead>
<tbody>
<tr>
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<td>2.0%</td>
<td>2.5%</td>
<td>3.6%</td>
<td>4.4%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
% of Shippers Expecting Air to:

% of Shippers Expecting Ground to:

% of Shippers Expecting International to:

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Expected Shift in Product Usage: All Shippers

How Will Your Usage of the Following Products Change as a Proportion of your Total Parcel Shipment Budget (on a Year-over-Year Basis) Over the Next 6 Months?

- **Overnight / Next Day**: 64%
- **Deferred / 2-Day**: 65%
- **Ground / Priority Mail**: 53%
- **Consolidators**: 79%

Source: Morgan Stanley Parcel Survey
### Historical Expected Change in Use of Air Products

How Will Your Usage of the Following Products Change as a Proportion of your Total Parcel Shipment Budget (on a Year-over-Year Basis) Over the Next 6 Months?

<table>
<thead>
<tr>
<th>Product Type</th>
<th>No Change</th>
<th>Larger</th>
<th>Smaller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overnight / Next Day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred / 2-Day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
# Historical Expected Change in Use of Ground and Consolidators

How Will Your Usage of the Following Products Change as a Proportion of your Total Parcel Shipment Budget (on a Year-over-Year Basis) Over the Next 6 Months?

**Ground**

- No Change: [Data Visualization]
- Larger: [Data Visualization]
- Smaller: [Data Visualization]

**Consolidators**

- No Change: [Data Visualization]
- Larger: [Data Visualization]
- Smaller: [Data Visualization]

Source: Morgan Stanley Parcel Survey
Expected Trends in B2C

YoY Change in B2C as % of Total

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Expected Trends in B2C

% of Respondents Indicating Increase in B2C Shipping as % of Total

Source: Morgan Stanley Parcel Survey
% of Respondents Switching Primary Carriers Over Time

% of Shippers Switching Primary Carriers Over the Past 6 Months

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Air Switching: Reasons for Switch and Primary Carrier

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Ground Switching: Reasons for Switch and Primary Carrier

Source: Morgan Stanley Parcel Survey
International Switching: Reasons for Switch and Primary Carrier

International: Reason for Switching Primary Carriers

International: Dollar-weighted Market Share

Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
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Part 3: Service & Value Trends
1. Service Reliability Rankings
2. Value of Service Rankings
Parcel Pricing Outlook Over the Next 6 Months

% of Shippers Expecting Air to:

<table>
<thead>
<tr>
<th>Month</th>
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<th>Increase</th>
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<tr>
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<td>Dec-09</td>
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<td>Jan-10</td>
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<td>Feb-10</td>
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<td>Jun-10</td>
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<td>Aug-10</td>
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<tr>
<td>Sep-10</td>
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</table>

% of Shippers Expecting Ground to:

<table>
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<td>Sep-10</td>
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% of Shippers Expecting International to:

<table>
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<th>Increase</th>
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<td>Nov-09</td>
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<td>Dec-09</td>
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<td>Mar-10</td>
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Source: Morgan Stanley Parcel Survey

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Pricing Trends by Product: Large vs. Small Shipper

Average Base Rate Expectations "Over the Next 6 Months" vs. Last Year

- Air
- Ground
- Int'l

Source: Morgan Stanley Parcel Survey
Base Rate Response Skew – All Shippers

Base Rate Growth Expectations “Over the Next 6 Months” vs. Same Period Last Year

Source: Morgan Stanley Parcel Survey
Pricing Outlook by Industry

Air - Avg Change by Industry

Ground - Avg Change by Industry

International - Avg Change by Industry

Source: Morgan Stanley Parcel Survey
Pricing Outlook by Listed Primary Carrier

Air - Avg Change by Carrier

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<th>Primary Carrier</th>
<th>UPS</th>
<th>FDX</th>
<th>USPS</th>
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Ground - Avg Change by Carrier

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International - Avg Change by Carrier

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<th>FDX</th>
<th>USPS</th>
<th>DHL</th>
<th>Other</th>
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<td>1.7</td>
<td>3.4</td>
<td>1.8</td>
<td>6.5</td>
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Source: Morgan Stanley Parcel Survey
Level of Aggressiveness in Trying to Win New Business

Parcel Shippers’ Rankings of Carriers’ “Aggressiveness” in Trying to Win Business Over Past Six Months

Source: Morgan Stanley Parcel Survey
List Rate Increases

Ground List Rate Increase

Air List Rate Increase

Source: Company data, Morgan Stanley Research

Ravi Shanker, (212) 761-6350, Ravi.Shanker@morganstanley.com
Percentage Discount Off of List Rates

Average List Rate Discount

Source: Morgan Stanley Parcel Survey
Percentage Discount Off of List Rates

Average Discount by Carrier and Product

Source: Morgan Stanley Parcel Survey
Air List Rate Discount by Spend

What is Your % Discount Off of Listed Parcel Rates for Air Express?

Source: Morgan Stanley Parcel Survey
Ground List Rate Discount by Spend

What is Your % Discount Off of Listed Parcel Rates for Ground?

Source: Morgan Stanley Parcel Survey
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3. Product Usage (e.g. Air vs. Ground)
5. Changes in Primary Carrier

Part 2: Pricing Trends
1. Outlook for Parcel Base Rates
2. Measures of Aggressiveness
3. Trends in List Rate Discounts
4. Accessorial Charges

Part 3: Service & Value Trends
1. Service Reliability Rankings
2. Value of Service Rankings
Service Reliability Rankings: Historical Trends

Air Express: Service Reliability

- FDX Air
- UPS Air

Source: Morgan Stanley Parcel Survey

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Service Reliability Rankings: Historical Trends

Ground: Service Reliability

Source: Morgan Stanley Parcel Survey

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Value for Dollar Rankings: Historical Trends

Air Express: Value for Dollar

Source: Morgan Stanley Parcel Survey

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Value for Dollar Rankings: Historical Trends

Ground: Value for Dollar

Source: Morgan Stanley Parcel Survey

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(as of September 30, 2017)

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Disclosure Section (cont’d)

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<th>COMPANY (TICKER)</th>
<th>RATING (AS OF)</th>
<th>PRICE* (10/05/2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ravi Shanker</td>
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<tr>
<td>ArcBest Corp (ARCB.O)</td>
<td>E (10/06/2011)</td>
<td>$32.90</td>
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<tr>
<td>C.H. Robinson Worldwide Inc. (CHR.W.O)</td>
<td>U (06/09/2013)</td>
<td>$76.05</td>
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<tr>
<td>Canadian National Railway Co. (CNR.TO)</td>
<td>O (02/23/2016)</td>
<td>C$101.39</td>
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<tr>
<td>Canadian Pacific Railway Ltd. (CP.TO)</td>
<td>O (06/03/2016)</td>
<td>C$207.78</td>
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<td>CSX Corporation (CSX.O)</td>
<td>U (10/02/2017)</td>
<td>$52.35</td>
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<td>Echo Global Logistics Inc (ECHO.O)</td>
<td>E (08/07/2017)</td>
<td>$19.40</td>
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<td>Expeditors International of Washington I (EXP.D.O)</td>
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<td>$60.27</td>
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<td>FedEx Corporation (FDX.N)</td>
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<td>$221.61</td>
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<td>Genesee &amp; Wyoming Inc. (GWR.N)</td>
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<tr>
<td>Heartland Express Inc. (HTLD.O)</td>
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<tr>
<td>Hub Group Inc (HUBG.O)</td>
<td>E (07/16/2012)</td>
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<td>J.B. Hunt Transport Services Inc. (JBHT.O)</td>
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<td>Kansas City Southern (KSU.N)</td>
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<tr>
<td>Knight-Swift Transportation Holdings Inc (KNXN)</td>
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<td>Landstar System Inc (LSTR.O)</td>
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<td>Norfolk Southern Corp. (NSC.N)</td>
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<td>Old Dominion Freight Line Inc (ODFL.O)</td>
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<td>Schneider National Inc. (SNDR.N)</td>
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<td>Union Pacific Corp. (UNP.N)</td>
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<td>United Parcel Service (UPS.N)</td>
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<td>Werner Enterprises (WERN.O)</td>
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<td>XPO Logistics, Inc. (XPO.N)</td>
<td>O (11/16/2015)</td>
<td>$66.22</td>
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</tbody>
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Stock Ratings are subject to change. Please see latest research for each company.

* Historical prices are not split adjusted.