



# JOC Intermodal Savings Index

An Analysis of the Domestic Intermodal and Truckload Markets  
2Q 2021

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# US Intermodal Savings Index

## An Analysis of the Domestic Intermodal and Truckload Markets

**Ari Ashe**, Senior Editor, Journal of Commerce

The Journal of Commerce (JOC) provides an in-depth quarterly report into the US domestic intermodal market to facilitate conversations between shippers and logistics companies about modal decisions.

### How to Read Our Index

The *JOC Domestic Spot Intermodal Savings Index* (“Spot ISI”) and the *JOC Domestic Contract Intermodal Savings Index* (“Contract ISI”) is measured with **100** as a neutral base.

Index values more than 100 signify intermodal rates are cheaper; values less than 100 indicate truckload rates are cheaper. Values are linked to percentages:

- 110 = Intermodal rates are 10% cheaper
- 120 = Intermodal rates are 20% cheaper
- 90 = Truckload rates are 10% cheaper
- 80 = Truckload rates are 20% cheaper

**Rule of thumb:** Higher numbers indicate strong intermodal savings. Lower numbers indicate strong modal competition. For an in-depth review, please read our “Methodology” on page 10.

### Executive Summary

Domestic intermodal business increased for the fourth consecutive quarter in 2Q, growing 16 percent compared with a year ago, according to the Intermodal Association of North America (IANA). The year-over-year comparisons are skewed since the dramatic falloff in freight volume in the early days of the COVID-19 pandemic occurred in 2Q20.

There are two ways to slice the IANA data: a bullish way and a bearish way. The bull notes how domestic 53-foot container volume, excluding trailers, rose 15 percent year over year in the second quarter but also

increased 7.3 percent compared with 2Q19. The bear would counter that 2Q21 domestic container volume is only up 0.6 percent compared with 2Q18, yet shippers have suffered through allocation caps, peak season surcharges, ingate closures, and a reduction in reservation slots from the US Class I railroads.

The 2Q21 service disruptions on BNSF Railway, Union Pacific Railroad, Norfolk Southern Railway, and CSX Transportation are a significant factor that readers should remember throughout this report. Service is just as important as cost. Slow, unreliable service can offset even the highest intermodal savings.

Table of ISI values

Contract and Spot ISI: 3 Month, 6 Month, 12 Month Rolling Averages.

3 Month	6 Month	12 Month
Spot ISI	Spot ISI	Spot ISI
120.7	121.7	117.4
Contract ISI	Contract ISI	Contract ISI
136.7	134.6	131.1

Source: IHS Markit

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Since 2015, the average monthly Contract ISI is 124.9 (24.9 percent savings); the average monthly Spot ISI value is 114.5 (14.5 percent savings).

Both indexes are higher today than the long-term averages. However, UP’s spot rate increases in California caused JOC’s Spot ISI to drop 12 points since March. BNSF-linked intermodal marketing companies (IMCs) raised spot rates to match UP.

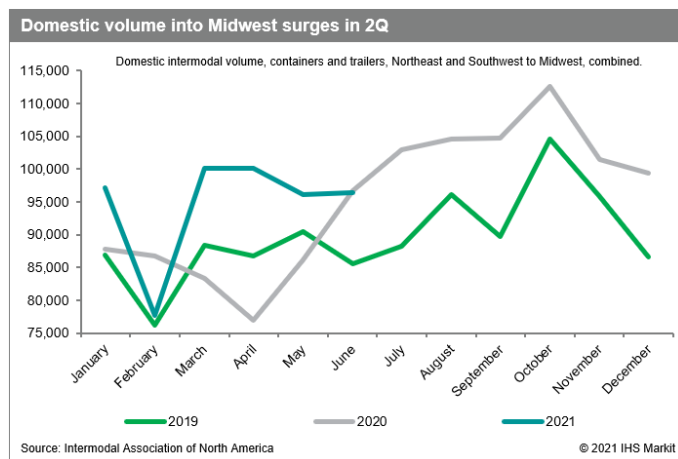
JOC’s Spot ISI fell under 100 in the second quarter in the Southwest, indicating truck rates were cheaper than rail rates out of California, even though prices are significantly higher than a year ago in both modes.

JOC’s Spot ISI remains near record levels, though, in the Midwest and Southeastern US, keeping the national index value higher than historical norms.

## The Volume Picture

Domestic intermodal volume is surging into the Midwest from both the Southwest and Northeast, according to IANA. From the Southwest to the Midwest, domestic intermodal volume grew 12 percent compared with a year ago and 19 percent compared with two years ago.

Why would the volume increase be stronger compared with 2019? As you can see below, June 2020 saw the V-shaped recovery in intermodal volume.

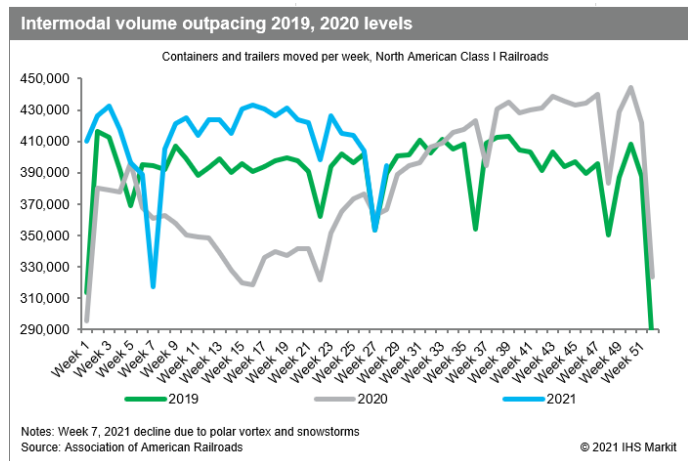


The V-shape is a warning that comparisons are more difficult going forward. In fact, domestic container volume between the Southwest and Midwest declined 4.3 percent year over year in June.

When combining Southwest and Northeast to Midwest hauls (chart above), volume jumped 30 percent year over year in April but was down 0.4 percent by June.

Another way to view volume is through the weekly data of the Association of American Railroads (AAR). In week 28, intermodal volume among all North American Class I railroads rose 7.7 percent compared with a year ago but only 1.3 percent compared with two years ago. Volume began to quickly climb last year in Week 30 — early August — so expect the percentages to fall toward zero or turn negative soon.

Note that AAR data combines international and domestic intermodal, so ocean containers are included in this analysis.



Despite the tough comparisons going forward, the forecast remains optimistic for the back half of this year. UP and NS said earnings call that low inventory, strong consumer spending, e-commerce sales, international trade, and rising truck rates will keep intermodal volumes up for the rest of this year and create more opportunity for truck-to-rail conversions.

Parcel volume will be an important factor as UPS, FedEx, Amazon, and Walmart take up a lot of intermodal train capacity. The business conditions of these four companies will be a major factor in rail volume the rest of this year.

J.B. Hunt Transport Services has an equally bullish outlook with its forecast tempered only by service disruptions and slow box turns.

“Demand for our intermodal capacity remains robust. In fact, demand continues to significantly outpace our available capacity which remains constrained by rail performance and restrictions in addition to customer detention of our trailing equipment,” said Darren Field, J.B. Hunt’s president of intermodal.

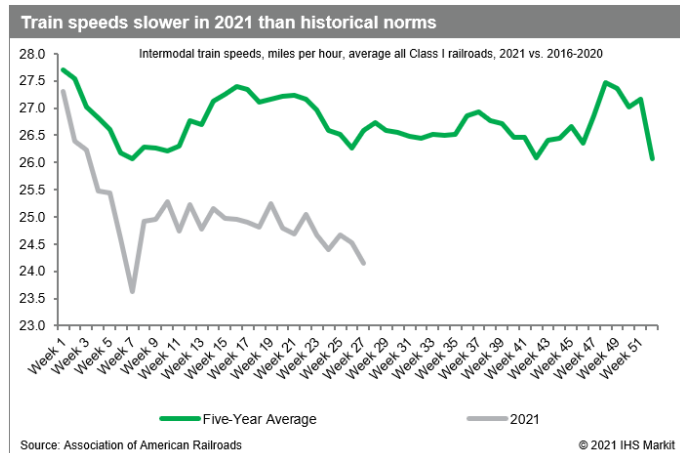
For those following JOC’s news coverage, the allocation caps in BNSF Hobart, congestion in BNSF Logistics Park Chicago, and domestic intermodal volume metering on NS’s network in cities such as Atlanta, Bethlehem, Charlotte, Chicago, Croxton (NJ), Harrisburg, Jacksonville, Kansas City, and St. Louis are well documented. Shippers and IMCs are also aware of how difficult it is to secure UMAX and EMP containers on UP’s domestic intermodal network.

## The Intermodal Service Discussion

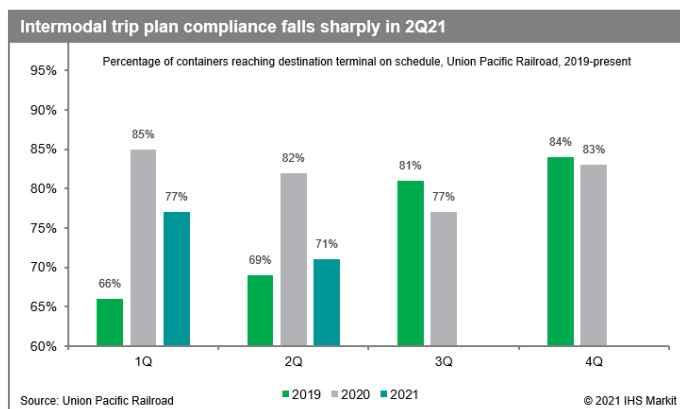
Most of this report will outline how soaring truck rates have delivered strong intermodal savings on both spot and contract freight in the US. However, it is vital to analyze how savings come with another cost: slower, inconsistent service.

A thorough analysis of the current intermodal market must profile both rates and service.

Intermodal train speeds were down 2.2 miles per hour compared with the rolling five-year average in the second quarter. Train speeds are down 3 miles per hour since February compared with a year ago, according to AAR, translating to an additional six to 10 hours of transit between Los Angeles and Chicago.



Historical data shows intermodal train speeds are inversely proportional to volume: PSR or no PSR. When volume goes up, intermodal train speeds and on-time performance go down.

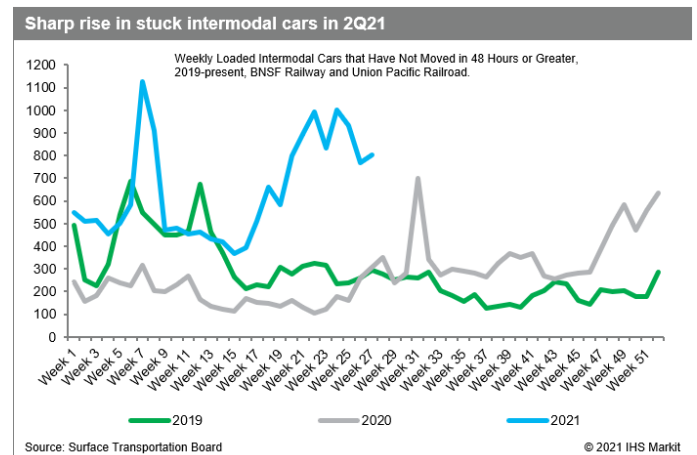


UP's intermodal trip plan compliance proves the validity of this maxim. Trip plan compliance rose

when intermodal volume in 2019 and early 2020. Once the volume rebounded, trip plan compliance fell again, especially in the last three months.

Even interchanges are unreliable, according to an IMC that said UP-CSX service from Los Angeles to Indianapolis often takes 21 days now compared with 7-10 days in the past.

Another way to judge service is how many laden intermodal cars idle for at least 48 hours.



Here is an eye-opening statistic: Between Weeks 13 and 27, the number of loaded BNSF and UP intermodal cars that have not moved in at least 48 hours has skyrocketed 333 percent compared with 2020 and 140 percent versus 2019!

A total of 10,339 loaded cars were idle for at least 48 hours on BNSF or UP in this period.

NS domestic intermodal service has also been disrupted because of the recall of 5,100 chassis in June. The eastern US railroad said July 28 that repairs on 75 percent of its chassis will be completed by the end of August, and it will bring on leased 53-foot chassis in September to restore normal service.

“We were already short on chassis because of elongated street dwell associated with warehouse and drayage community pressures,” said Alan Shaw, executive vice president of marketing and sales for NS.

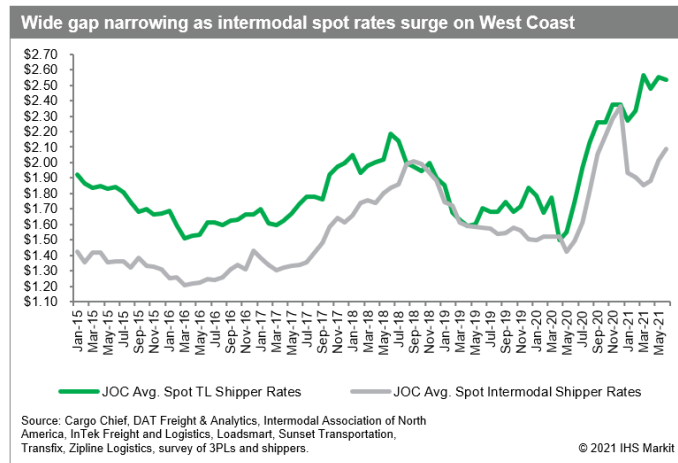
Service has been metered to Atlanta (Austell), Bethlehem, Charlotte, Croxton, Harrisburg, Jacksonville, and Pittsburgh. Auxiliary lots have also been opened in Jacksonville.



## The Intermodal Rate Discussion

### JOC's Spot Intermodal Savings Index

As we predicted in our 1Q21 report, the second quarter was chaotic in terms of intermodal savings. While our rolling 12-month data shows strong savings, a three-month window shows a great deal of volatility.



While July spot truckload rates show no signs of a slowdown, there are trucking analysts who believe the market will peak and plateau soon. Our data does show spot intermodal rates rose 21 cents per mile, while spot truckload rates grew only 6 cents in 2Q.

Index values in California show this trend. JOC's Spot ISI averaged 114.8 between January and April 2021 but plunged to 91.5 average over the last two months after spot rates were increased in Los Angeles-Ontario, and Oakland-Stockton.

JOC's Spot ISI from Los Angeles to Chicago hit 128 in the first quarter, then fell to 113.7 in May after UP increased spot rates \$1,500 in April. The value dropped to 94.4 in June when spot rates went up another \$1,500.

Expect the Southwest Spot ISI to fall even further, as UP raises surcharges on low-volume shippers in California to \$5,000 per container on Aug. 8. Spot rates hikes in April and June will be raised again \$2,000 in California to sync the surcharge rate to the spot rate.

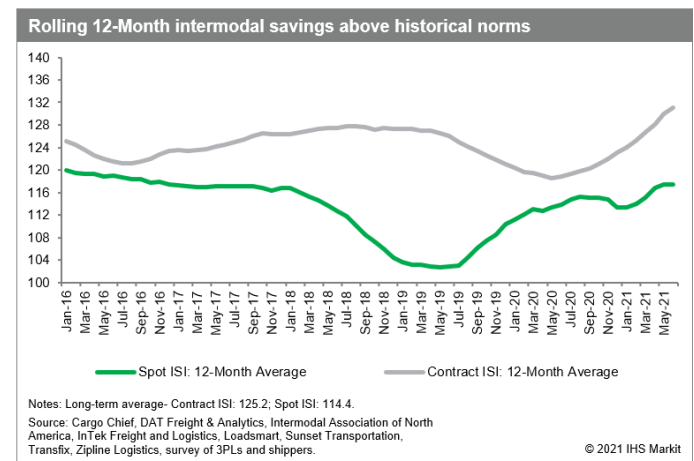
JOC's Spot ISI in the Midwest remains high with a three-month average of 127.6 in 2Q21 compared with 110.4 in 2Q20, and 107.9 in 2Q19. The Spot ISI also

rose in the Southeast to 129.7 in 2Q21, up from 110.8 in 2Q20, and 106.1 in 2Q19.

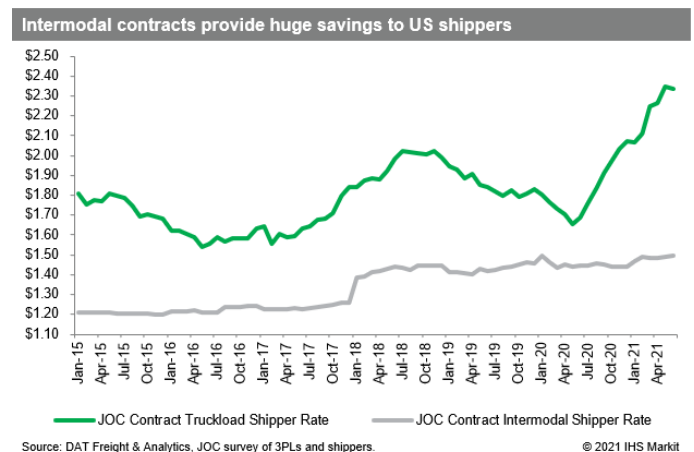
If the Spot ISI in the Midwest and Southeast, which represents about 45 percent of the national weighting, remains elevated because spot truckload rates remain high, then the national index may not collapse. If truck rates cool out of Atlanta or Chicago, however, expect a quick and steep decline in JOC's Spot ISI nationally.

### JOC's Contract Intermodal Savings Index

On a rolling 12-month basis, the JOC Contrast ISI and JOC Spot ISI have risen in the last three months.



In June, truckload contract rates were up 38 percent year over year while intermodal contract rates were up 4 percent based on our 117 indexed lanes.



Alan Shaw of NS noted the lag in intermodal contract rates will reset during the next bid cycle. "We would expect next year to see more improvement in year over

year prices than we see this year, but we are not going to see a huge uptick like you see in the spot market,” he said.

## The Distance Discussion

The length of haul is a key factor in modal decisions. Shippers benefit from lower fuel costs more on longer lengths of haul, especially with higher diesel prices.

### Less than 700 Miles

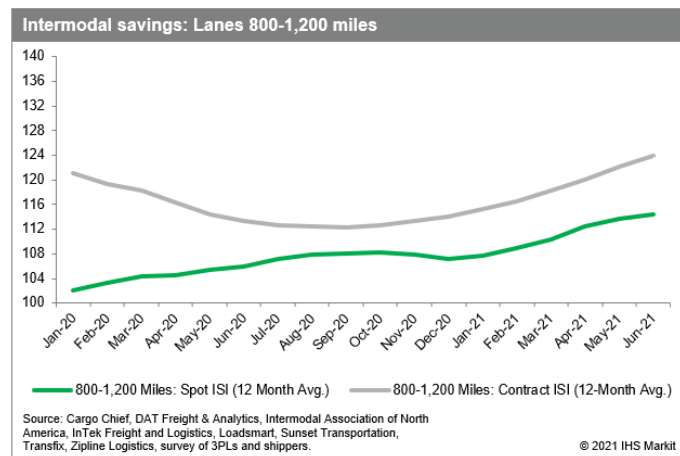
We track seven lanes in this distance. JOC’s Contract ISI was 119.4 and the Spot ISI was 100.2 on a rolling 12-month basis. We have minimal contract data since there are not many shippers with an intermodal contract between Atlanta and Jacksonville, for example. Our transactional rates show intermodal does not provide savings on these short lengths of haul.

Trucks are cheaper for Atlanta-Jacksonville, Atlanta-Orlando, and Salt Lake City-Los Angeles. Shippers sending freight on CSX between Syracuse and Chicago or Chicago and CSX Chambersburg save money using intermodal. Chambersburg is located in a rural section of southern Pennsylvania near the Maryland border, so a regional dray may tip the scales back to trucking.

### 800 to 1,200 Miles

This distance has the most heated modal competition.

JOC’s Contract ISI was 123.9 and JOC’s Spot ISI was 114.4 on a rolling 12-month basis. While this distance of lanes underperformed the national market in the past, the savings are now on par with national numbers.



Chicago to Dallas, Jacksonville to Dallas, and Los Angeles to Denver are lanes where trucks are faster, more reliable, and price competitive with intermodal. Los Angeles to Seattle delivers a strong 20-25 percent savings on intermodal contracts, but spot rate increases on BNSF and UP have made trucks cheaper on transactional business.

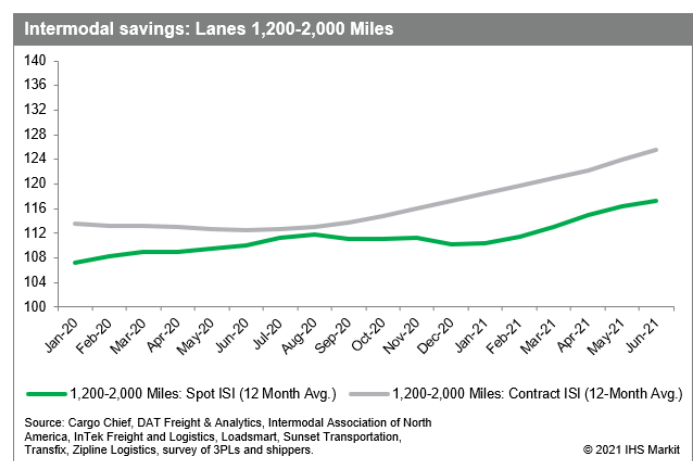
Intermodal can deliver strong savings in both directions between Chicago and Jacksonville, Chicago and Orlando, and Elizabeth (NJ) and Atlanta.

Be aware, though, that NS service disruptions have occurred several times in Chicago, Elizabeth (Croxtan), and Jacksonville since January. NS’s ongoing chassis repairs have also significantly reduced domestic intermodal throughput since June and will remain a constrained through the end of August. Auxiliary lots have also been set up in Jacksonville with space for domestic containers at a premium.

### 1,200 to 2,000 Miles

JOC’s Contract ISI was 125.6 and JOC’s Spot ISI was 117.3 on a rolling 12-month basis through June.

This a bellwether number because busy origin-and-destination pairs such as Los Angeles-Dallas, Los Angeles-Kansas City, and Kansas City-Elizabeth fall into this segment.



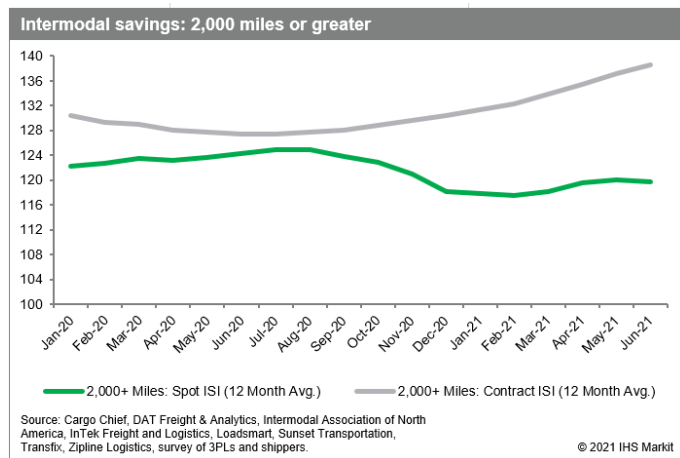
Our five Chicago outbound lanes — to El Paso, Laredo, Miami, Salt Lake City, and San Bernardino — deliver at least 20 percent savings to shippers. Our two Dallas lanes to Elizabeth (NJ) and Los Angeles also deliver at least 20 percent savings. Outbound Los Angeles lanes

in this segment and the 2,000+ mile segment follow the theme throughout this report: significant contract rates, no spot rate savings due to the rate hikes. With a contract, shippers can save more than 35 percent but any load subject to a contract surcharge or a spot rate will be cheaper on a truck.

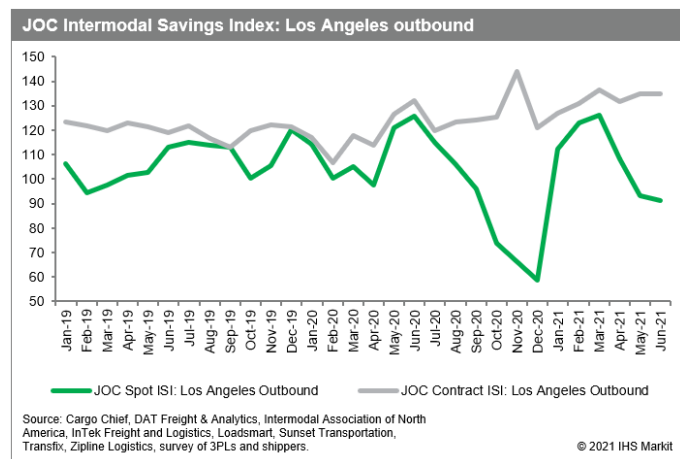
## 2,000 Miles+

These are the lanes heavily skewed to Los Angeles-Ontario, and Oakland-Stockton. As mentioned before, there are significant contract intermodal savings but quickly eroding spot intermodal savings.

JOC's Contract ISI average was 138.2 and JOC's Spot ISI was 119.9 on a rolling 12-month basis through June.

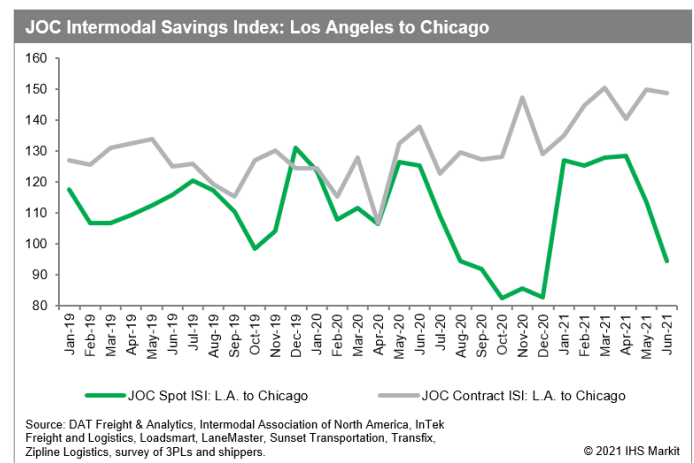


Remember these charts are rolling 12-month averages, so recent pricing actions have not made a large dent. When broken down month-by-month, the Los Angeles outbound data shows how surcharges and spot rate hikes have hurt the overall price savings in Los Angeles.



The graph is very similar when isolated to Los Angeles to Chicago, a distance of 2,025 miles.

Each dip in Los Angeles corresponds to a pricing change. In 3Q19, UP issued peak season surcharges and spot rate increases. In February-April 2020, the COVID-19 pandemic caused volume and rates to plunge in Los Angeles for ports, railroads, and trucking companies. Between August and December 2020, UP issued a record \$5,000 surcharge on low-volume shippers out of Los Angeles. And UP has issued a \$3,000 surcharge and raised spot rates an equal amount this year, a rate that UP take even higher in 3Q21.



So what does this translate to in dollars and cents on spot business? From Los Angeles to Chicago, shippers should expect to pay around \$6,000 over the road, based on a JOC analysis of data from Cargo Chief, DAT Freight & Analytics, Loadsmart, and a survey of 3PLs and shippers.

Shippers should expect to pay at least \$6,000 on spot intermodal, although other published rates range from \$7,500 to \$8,500 door-to-door.

From Los Angeles to Dallas, shipper rates on truck are \$5,000 to \$5,500 using trucks and \$6,000 to \$7,000 using intermodal.

Now that UP is raising all California spot rates again on Aug. 6, expect the scales to tip even farther toward truckload in Los Angeles, Ontario, Oakland, and Stockton.



## The Lane-by-Lane Breakdown

In this section, we examine which markets are pro-intermodal, pro-trucking, and *up for grabs*.

Please evaluate the next infographic like a traffic light.

**Green** means go — strong intermodal savings.

**Yellow** means slow down — truck is competitive.

**Red** means stop — no intermodal savings.

Given accessorial fees, including rail storage (demurrage), detention, per diem, and block and bracing, a **yellow** lane can easily flip **red** because we exclude this in our calculation.



### GREEN:

Index value is greater than 110. These are pro-intermodal lanes in which shippers should feel comfortable they are receiving a good value.

ATLANTA TO CHICAGO  
ATLANTA TO LOS ANGELES  
ATLANTA TO OAKLAND  
BALTIMORE TO CHICAGO  
BOSTON TO CHICAGO  
CHICAGO TO ATLANTA  
CHICAGO TO ELIZABETH (NJ)  
CHICAGO TO HOUSTON  
CHICAGO TO JACKSONVILLE  
CHICAGO TO LOS ANGELES  
CINCINNATI TO STOCKTON  
DALLAS TO BOSTON  
DALLAS TO CHICAGO  
DALLAS TO ELIZABETH  
DALLAS TO SEATTLE  
DENVER TO CHICAGO  
ELIZABETH TO ATLANTA  
ELIZABETH TO CHICAGO  
ELIZABETH TO DALLAS  
ELIZABETH TO HOUSTON  
HOUSTON TO CHICAGO  
HOUSTON TO LOS ANGELES  
HOUSTON TO STOCKTON  
JACKSONVILLE TO CHICAGO  
JACKSONVILLE TO ELIZABETH  
K.C. TO LOS ANGELES  
LOS ANGELES TO ATLANTA  
LOS ANGELES TO CHICAGO  
LOS ANGELES TO DALLAS  
MEMPHIS TO LOS ANGELES  
MIAMI TO CHICAGO  
MIAMI TO ELIZABETH  
OAKLAND TO ATLANTA  
ORLANDO TO LOS ANGELES  
ORLANDO TO STOCKTON  
PHILADELPHIA TO CHICAGO  
PORTLAND TO CHICAGO  
SEATTLE TO ATLANTA  
SEATTLE TO CHICAGO  
SEATTLE TO DALLAS  
SPRINGFIELD TO CHICAGO  
ST. LOUIS TO LOS ANGELES  
STOCKTON TO ATLANTA  
STOCKTON TO CHICAGO  
STOCKTON TO DALLAS

### YELLOW:

Index value is between 100 and 110. Shippers should have a deeper discussion on these lanes with logistics providers because although they are saving some money, truck rates are competitive.

ATLANTA TO DALLAS  
BOSTON TO ORLANDO  
CHARLESTON TO CHICAGO  
CHARLOTTE TO MIAMI  
CHICAGO TO DENVER  
DALLAS TO FRESNO  
DENVER TO LOS ANGELES  
EL PASO TO CHICAGO  
ELIZABETH TO COLUMBUS  
HOUSTON TO FRESNO  
JACKSONVILLE TO DALLAS  
LAREDO TO STOCKTON  
LOS ANGELES TO SEATTLE  
LOS ANGELES TO TACOMA

### RED:

Index value less than 100. These are pro-trucking lanes.

ATLANTA TO JACKSONVILLE  
ATLANTA TO ORLANDO  
CLEVELAND TO EL PASO  
DALLAS TO ATLANTA  
LOS ANGELES TO DENVER  
ORLANDO TO ELIZABETH  
SALT LAKE CITY TO LOS ANGELES

Source: IHS Markit

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It's important to note that our Traffic Light Infographic is done on a rolling 12-month basis and merges contract and spot market index values.

For a shipper seeking a 12-month contract, the Los Angeles, Oakland, and Stockton lanes are appropriately placed in this infographic. For a shipper using intermodal on a spot basis, the Los Angeles, Oakland, and Stockton lanes are either yellow or red.

## Regional Breakdown

Row Labels	JOC Contract ISI	JOC Spot ISI
<b>Midwest</b>	<b>128.51</b>	<b>126.33</b>
Mountain	119.74	106.22
Northeast	124.33	136.88
Northwest	138.15	130.74
Southcentral	120.45	119.61
Southeast	133.34	139.24
Southwest	131.16	123.55
<b>Mountain</b>	<b>119.31</b>	<b>110.66</b>
Midwest	137.95	125.21
Southwest	100.68	96.12
<b>Northeast</b>	<b>135.28</b>	<b>128.44</b>
Midwest	137.77	133.67
Mountain	126.41	112.22
Northwest	147.15	133.15
Southcentral	126.46	113.66
Southeast	123.09	124.73
Southwest	149.04	131.79
<b>Northwest</b>	<b>128.58</b>	<b>103.52</b>
Midwest	133.39	126.05
Northeast	131.59	112.28
Southcentral	121.41	98.40
Southeast	137.04	123.37
Southwest	123.95	80.67
<b>Southcentral</b>	<b>123.78</b>	<b>115.39</b>
Midwest	122.21	103.66
Northeast	133.05	122.19
Northwest	127.04	134.43
Southeast	97.95	112.65
Southwest	132.79	121.45
<b>Southeast</b>	<b>123.18</b>	<b>119.29</b>
Midwest	127.46	126.10
Northeast	107.56	120.93
Northwest	145.82	141.57
Southcentral	102.52	106.02
Southeast	107.36	77.49
Southwest	131.87	127.36
<b>Southwest</b>	<b>138.68</b>	<b>94.17</b>
Midwest	144.27	94.58
Mountain	94.03	62.53
Northeast	146.39	108.90
Northwest	123.65	65.09
Southcentral	140.61	86.87
Southeast	142.02	97.97

## Quotes from Earnings Calls

“[Shippers] don't have the inventory exactly where they wanted or at the timing that they wanted. I think there are concerns about this Christmas season and will they have all of the necessary inventory on shelf or available through e-commerce channels. That's a concern of our customers. Inventory will take some time to catch up to more normal levels,” — Shelley Simpson, chief commercial officer for J.B. Hunt Transport Services.

“We've taken numerous actions to mitigate the customer impact and area actively working with all the parties in the supply chain. Even so, it's likely these issues [international and domestic intermodal] will persist through the end of the year.” — Lance Fritz, CEO of Union Pacific.

“It is an enormous challenge for us to go out and find people that want to be conductors on the railroad, just like it's hard to find people that want to be baristas or anything else. It's very, very difficult.” — Jim Foote, CEO of CSX.

“I have never seen any kind of a thing like this in the transportation environment in my entire career where everything seems to be going sideways at the same time. Despite all that, we have been able to keep our terminals open in Chicago and I hope we can continue to do that.” — Jim Foote, CEO of CSX.

“In terms of [the STB](#), most of what we handle is truck competitive. Most of the freight on our rails will move on truck if move rates above a truck competitive level,” — Jim Squires, CEO of Norfolk Southern.

“Intermodal rates lag truck rates pretty significantly. So there is a lot of headroom for us and as our service product improves, there is going to be even more demand for what we are putting out there,” — Alan Shaw, executive vice president of marketing and sales, Norfolk Southern.

## Methodology

The Journal of Commerce evaluates more than 190 lanes in our study of intermodal savings. We send estimates on 45 lanes to 3PLs and shippers under non-disclosure agreements.

Our estimates include margins and fuel but exclude accessorial fees such as detention, demurrage, per diem, lumper fees, blocking and bracing. Our contributors review transactions and provide broker-to-shipper invoice rates. Those responses are used to calculate the two indexes.

The base value is 100, which means intermodal and truckload rates are identical. If intermodal door-to-door rates are 20 percent cheaper, JOC's index value is 20 percent greater than 100, or a value of 120. If trucking door-to-door rates are 20 percent cheaper, then the value is 20 percent less than 100, or a value of 80.

Ten percent savings would equal 110 or 90, depending on which mode is cheaper. Thirty percent savings would be 130 or 70, depending on which mode is cheaper.

JOC calculates regional index values for the Midwest, Mountain, Northeast, Northwest, Southeast, South Central, and Southwest US, using the IANA's map.

A national number is calculated on a weighted basis using IANA's 53-foot equipment flow data.

## Acknowledgements

Although we are prohibited from disclosing the identities of several 3PLs and shippers contributing to the JOC Intermodal Savings Index, we thank them for providing us critical data to do our analysis.

We can identify are Cargo Chief, DAT Freight & Analytics, InTek Freight and Logistics, Loadsmart, Sunset Transportation, Transfix, and Zipline Logistics.

Each are valued JOC Intermodal Savings Index partners.

Transfix is a digital online freight broker.

Loadsmart — a competitor to Transfix — provides data for our JOC Shipper Spot Truckload Rate Index, tracking broker-to-shipper rates on more than 4,000

lanes, which we compared with our smaller JOC Intermodal Savings Index sample.

We thank Rick LaGore, CEO of InTek, who provides JOC weekly spot intermodal data on more than 115 lanes. We adjust his numbers using published FAK rates from the Class I railroads and asset-based IMCs to get additional snapshots of the spot market.

We thank IANA for providing JOC data monthly 53-foot container flows to allow us to weigh our national number to actual market conditions.

We thank the DAT Freight & Analytics team that ensures our estimates sent to 3PLs and shippers are accurate.

Our goal is to build on the data from Cargo Chief, DAT, IANA, InTek, Loadsmart, Sunset, Transfix, and Zipline Logistics to deliver analysis that can facilitate discussions between shippers and IMCs.

We highly encourage our readers to contact us and our data contributors if you have further questions.

Finally, we thank our parent company, IHS Markit, for their continued support of JOC.

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