The 2018 Visibility Report

Transportation Intermediaries Association | project44

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EXECUTIVE SUMMARY

Visibility is the cornerstone of today's supply chain. In a competitive environment where the transparency of freight is synonymous with its value, the companies that understand how to cull and use their most valuable data points will have the edge. Technology strategy, rather than undirected data collection, is king, and demand for custom approaches to visibility is higher than ever. Third-party logistics companies, the supply chain's traditional managers, are becoming its technology leaders. They are determining not only how visibility will be created, but also how it is becoming the dominant avenue of communication for 3PLs and shippers.

The degree to which they can fully realize the hallmarks of visibility: information accuracy, trust, flexibility in meeting customer expectations, and the development of consistent practices, will determine how successful 3PLs will be in sustaining and building effective relationships with shipper customers.

So why does visibility still lag in some segments of the supply chain? And how will track and trace thresholds evolve? Answers may be just beginning to emerge as companies find and test the best big data strategies. But one thing is clear – automation, digitization and collection capabilities – have brought 3PLs closer than ever to their customer's information, and the ways they leverage that proximity will determine what visibility means for years to come.

Drawn from interviews with the largest 3PLs, as well as smaller technology leaders, this report will explain in detail how and why increased freight visibility is creating significant value in today's turbulent business landscape.

KEY POINTS: 3PLs INVEST HEAVILY IN TECHNOLOGY AND VISIBILITY TO DELIVER BUSINESS INTELLIGENCE

- The array of delivery options that allow 3PLs to customize the data they provide to shippers has expanded and includes everything from complex strategies to proven methods such as electronic data interchange (EDI).
- Significant advances in visibility technologies have created a wide range of perceptions and expectations among shippers, including some that are inaccurate. 3PLs in this report identified a complicated web of factors that affect those perceptions and expectations, such as the demands of data aggregation, the need for more education, and the accelerated pace of change that affects 3PL and shipper alike.
- 3PLs continue to focus their technology on customers' visibility needs amid an explosion of available data, and the demands of their own systems development to sustain visibility improvements.
- Every 3PL participating in this report underscored a commitment to providing substantial financial resources to support visibility and other tech projects.
- As visibility accelerates, the simultaneous forces of growing demand, capacity strains from the electronic logging device (ELD) mandate, and other forces have introduced new variables into freight markets. In the dynamic market, 3PLs are capturing the opportunity to deliver business intelligence.
- The future challenge will be to find optimal and flexible methods to sustain the substantial advances already made by logistics companies in providing visibility to their customers.

INTRODUCTION

As the range of available data from every mode expands, creating the potential for complex, nuanced decision making, the pressure to own those real-time supply chain decisions grows ever more intense. Good technology underlies the delivery of relevant information, which in turn informs effective management. Introduce even a small error – in judgement, data point collection, or analysis – and the variation isn't just measured in time lost, but real dollars and cents.

The "2018 Visibility Report," is an interview based survey of 3PL technology leaders, published by the Transportation Intermediaries Association (TIA) to represent the evolving challenges, opportunities, leadership and innovation in supply chain visibility.

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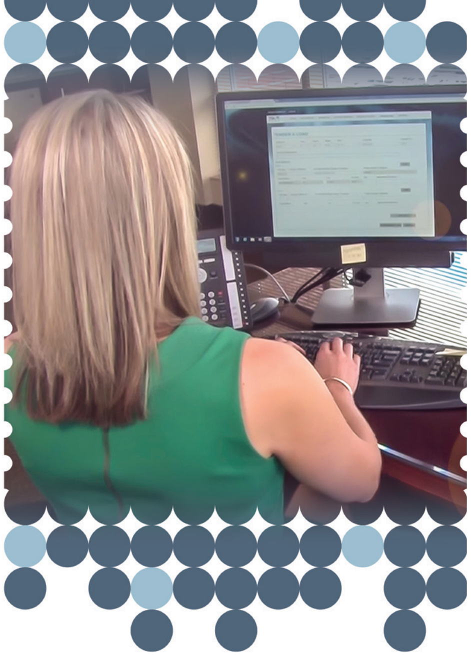
3PLs play a critical role in this information chain by leading, building and solving problems for shippers. And that function has yet to receive adequate attention at a time when dramatic headlines about penalties being assessed if a delivery is even one minute late and the continual technological transformation of American buying habits dominate logistics news coverage.



REPORT OVERVIEW AND INTERVIEW METHODOLOGY:

Focused exclusively on the 3PL industry, this report will explain in detail how and why increased freight visibility is creating significant value in today's turbulent business landscape.

- This report is drawn from more than 20 sources, heavily weighted toward expert insights from industry leaders. The comments which follow evaluate the visibility process from multiple perspectives, revealing each company's unique approach to creating a richer understanding of freight visibility.
- The report includes input from the five largest 3PLs on the Transport Topics Logistics 50, mid-sized brokers and the logistics units of several Top 50 motor carriers.
- The report consists of seven sections, beginning with an overview of freight visibility, followed by its technological evolution and the complexities attached to perceptions of 3PLs' visibility activities.
- The second portion illustrates how 3PLs are constantly building those systems and how they are being refined in a world where data options are exploding.
- The final section addresses how the latest developments in logistics, both the surging freight market and the ELD mandate, are affecting freight visibility, and what lies ahead. Because experts made similar points in many cases, not every executive's comments on every topic are included. However, their valuable insights are incorporated into the broad findings.

Where there are disagreements or critical comments, they are meant to shine a spotlight on areas for improvement, and not as a broad-brush indictment of carriers and shippers by 3PLs, whose services are the fulcrum for the freight market and rely on both groups.

The commitment to freight visibility is a constant for 3PLs. Those contacted for this report uniformly underscored the fundamental importance of ensuring visibility for their customers' freight.

I. Freight Visibility: Constant Commitment, Complex Topic

Delivering visibility is a multi-faceted and complex process. It incorporates strict attention to accurate information, trust, varied shipper preferences, consistent practices, knowledgeable people and shared expectations. Those important qualities are amplified by the promise of added value, whenever visibility information can be applied to create business intelligence.

This section discusses those critical freight visibility components, incorporating a wide variety of expert insights, which expressed the broad, shared, industry commitment to the visibility process.

CUSTOMIZATION IS KEY

Geoff Turner, CEO of Choptank Transport, captured the complexity 3PLs must address with an individual focus on freight visibility. "Each customer is different. It's really about asking the right questions to find out their needs. We are approaching each customer with a unique question: what are you trying to accomplish?"

"Our customers are looking to know where their product is at all times and assurances that the delivery will meet their end customer's needs," said Schneider Logistics Services Senior Vice President Erin Van Zeeland. "It's much more than seeing freight on a map. It's much more a matter of predictive analytics so that the shipper customer can give good information to their consumers."

Total Quality Logistics President Kerry Byrne offered a similar perspective. "Freight visibility should be more than just dots on a map – it should include efficient solutions before they are even asked for," he believes.

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–Kerry Byrne, President, Total Quality Logistics

Accuracy is key, too, said President, N.A. Non-Asset, NFI Industries, David Broering. Broering stressed the importance of receiving accurate information from the shipper, with clear instructions, and the equally important step of the same performance by carriers to create a fundamental value: trust in the relationships 3PLs have with both constituencies.

FLEXIBILITY MATTERS TOO

“This is not a one-shoe-size-fits-all situation,” explained Travis Rhyan, EVP & General Manager of 10-4 Systems. Rhyan said 3PLs offer a range of communication capabilities to shippers, which creates expectations that all logistics providers can deliver information in any format, which isn’t necessarily the case in reality.

Visibility is more than just a word, said project44 President Tommy Barnes. “It’s a process that is driven by a commitment to automation that is used to connect shippers with the most accurate and actionable information to suit their needs.” That must include what Barnes called the normalization of information the shipper receives to make it more meaningful, incorporating factors such as weather and traffic congestion that might impact on-time deliveries. “Visibility means delivering access to the right information, at the right time,” he said.

Echo Global Logistics President Dave Menzel said there has been significant progress in collecting data from carriers and receiving much more information, so that real-time updates can be more easily provided to customers. Covenant Transport Solutions Executive Vice President Paul Newbourne stressed consistency to satisfy customers and the additional importance of using visibility information in multiple ways.

"As a former shipper, I always asked: 'What can you do to help me be more successful?' Many carriers had the visibility capacity," Newbourne said. "There are still a lot of carriers out there that don't have data-mining skills. Many think their sole job is to pick up and deliver freight. They don't go the next step to say, 'How can we use the information better to help you?' "

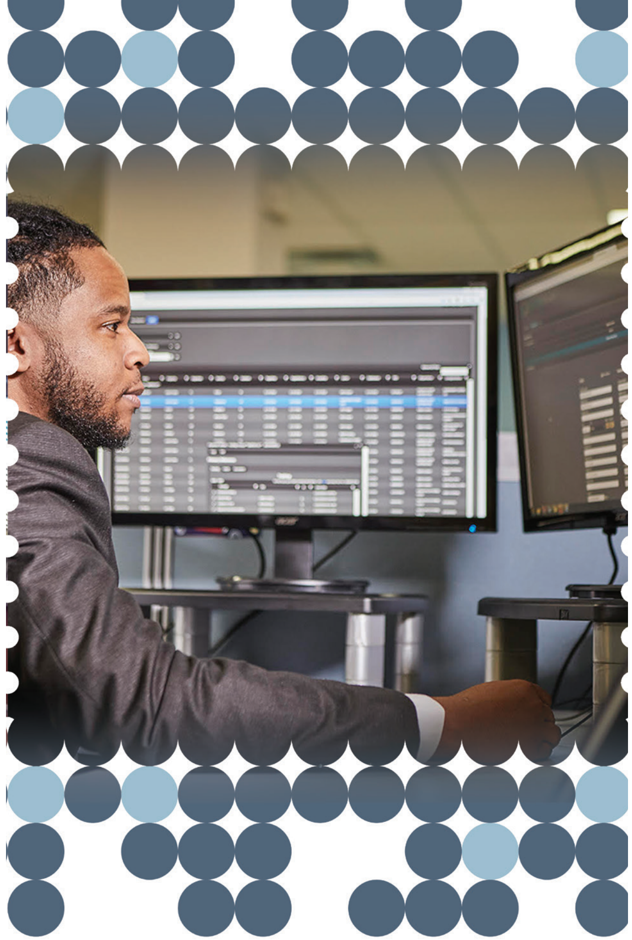
The wider value of visibility data touched on by others was described by Vice President of Strategic Ventures at Blue Grace Group Andy Berke:

> "When you get to the larger, more sophisticated shipper, visibility is business intelligence. The question is how visibility gets translated into data that helps customers make better business decisions. What are the key metrics people are looking for?"

That means applying information gleaned from visibility data to manage inventory, taxes, create accountability for vendors or warehouses and other factors, Berke said.

Two other factors need to be considered as well, according to InTek Freight & Logistics President Shelli Austin. Austin said 3PLs must be prepared for customers that prefer information "pushed" to them, or the option to "pull" data from a 3PL when they want it. "Customers have all different levels of information demand. Some don't want it until something goes wrong," said DRT Transportation President Robert Kemp, which he said highlights the need for visibility to also be available selectively, whether it is "pushed" or "pulled."

EXPERTISE IS IMPORTANT



Meanwhile, the expertise of a team charged with creating visibility must combine a deep knowledge of both the freight being moved and the information technology available, said project44's Barnes. Intelligent Logistics Vice President of Operations Brandon Arnold made a similar point from an operational standpoint. "It starts with the people who work for you to understand the process and the freight they are moving," which is gained from actually knowing the industry.

Arnold also noted other considerations that make a difference for freight visibility. Smaller companies that don't have shipping departments still need visibility, he said, which 3PLs must find ways to best deliver through the customer's preferred method.

COMPETITION IS FIERCE

"We have to be there 24/7/365, or someone else will be," Arnold said. As if those pressures aren't great enough, RLS Logistics Transportation Group CEO Russell Leo highlighted specific information needs for refrigerated freight, typically moved by smaller carriers. That requires additional flexibility to use a broad variety of information tools that are suited to both the demographics and the technological skill of drivers.

3PLs can provide immediate value whenever technology is almost instantly translated into visibility, he said, by using truck location tools that deliver visibility through a smartphone app when a driver first accepts a load. It's important to have that tool, but brokers should be flexible in allowing carriers and drivers to use the technology that makes them most comfortable, he said.

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Visibility Goes Beyond Tracking

Freight visibility can deliver far more than just information related to track and trace, but effectively generating visibility data requires a 3PL to engineer a process that delivers value for both the 3PL and its customers. Done right, visibility creates benefits from end-to-end.

That's the view of project44 and its president Tommy Barnes. Creating value for the user really requires attention to how the information is used to access the underlying activities that matter most to the customer, he said. Any attempt to build visibility should start with a simple question, "how can their business be run even more effectively and profitably?"

In the following example, provided by project44, the company illustrates how that value can be unlocked through visibility that delivers benefits such as improved operational performance, increased efficiency, better customer retention, and faster invoicing.

Creating a single, modern connectivity network to enhance visibility saved a 3PL $1.2 million annually through improved information accuracy that eliminated errors and rework. The results included 35% more revenue as staff transitioned to income-producing opportunities and away from inefficient task management. The result was 58% faster invoicing and a 63% rise in customer satisfaction.

A key factor is enabling users to leverage the right information at the right time by matching it automatically with inventory that "is where the real dollars are," said project44's Barnes.

Barnes went on to explain that visibility is the key to generating data in a cost-effective manner. That means that focusing the process on reducing the manual processes that also can lead to costly mistakes is particularly important, Barnes said. The people who design the systems to deliver automated visibility must understand the goals of deploying the technology in the supply chain context and not just have technical skills that can be found anywhere.

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SOLUTIONS HIGHLIGHT: THE BUSINESS CASE FOR END-TO-END VISIBILITY

A $1 billion 3PL was able to increase customer satisfaction, improve operational performance, and differentiate themselves from the competition by delivering accurate tracking information and proactive exception management across TL, VLTL, rail and parcel shipments.

Before project44, this 3PL relied on manual processes to track loads and confirm status updates, resulting in significantly reduced margins. That is not uncommon, Harvard Business Review reports that workers waste up to 50% of their time hunting for accurate data and fact checking.

This leading 3PL also struggled with customer churn due to inaccurate information. Their shipper customers were citing delays in accessing tracking data across modes, billing errors accompanied by a lengthy invoicing process.

Increased multimodal tracking through the project44 portal meant greater insight into shipment location, the ability to set custom geofences and receive proactive ETA notifications for any exceptions resulting in less time wasted, and more time focused on what mattered most. Specifically, the 3PL:

- Accelerated their ability to grow their business and serve their customers with $1.2 million in annual savings resulting from automated information connectivity and real-time accurate information.
- Leveraged the p44 network to quickly and efficiently execute on top priorities. That meant a 35% increase in revenue because of error elimination and staff efficiency.
- The 3PL was in more control and transformed how they used data. Moving to a more automated approach to visibility resulted in a 73% increase in customer satisfaction by providing proactive information about at-risk loads.

The commitment to freight visibility is a constant for 3PLs. Those contacted for this report consistently underscored the fundamental importance of ensuring visibility for their customers' freight.

II. 3PL Freight Visibility Evolves with Technology

Uniformly, 3PL participants said the key to delivering visibility is to align their delivery systems with customer preferences, whether it is the once-standard electronic data interchange (EDI) channel or creating access through a Web portal, often connected directly with a Transportation Management System. The freight visibility processes that 3PLs use now embrace every communications channel: EDI, Excel and similar data files, application program interfaces (APIs), and Web portals; they incorporate advanced technology from suppliers to capture data from fleets' smartphones and tablets.

To satisfy their customers, shippers continually need better information, creating the opportunity for 3PLs to take the lead in customizing solutions. In fact, said 10-4's Rhyan, the industry is in the midst of a transparency transition. In practical terms, that means technology is advancing so fast that transparency is moving from something that once was delivered occasionally to something that is fast becoming a cornerstone requirement of a collaborative relationship.

"The ability to tell people exactly what is going on is going to earn your reputation," he said. "The customer isn't always going to like what they see. But [even if it's bad news, like a late shipment], studies have found that customers are more likely to keep using you if they know [information] in advance." He offered another example. When a carrier is onboarded by a 3PL, they have to carefully choose how much information to show about that carrier to the customer.

If the 3PL chooses to create freight visibility for the shipper when a carrier is underperforming, the broker runs the risk of disappointing the customer and harming their partnership every time a carrier error, such as a late pickup or missed delivery, goes undetected. Nevertheless, the broad availability of technological advancements have helped small and mid-sized carriers and brokers to compete, said leaders of 3PLs. And tradition still has a role, too, with the personal touch from a telephone call.

One of the key factors in delivering visibility is embracing multiple layers of technology to capture data from carriers, said many 3PLs, including L&M Transportation Services Director of Managed Services Division James Askren, and NFI's Broering. That range can include everything from a cloud-based TMS platform to the occasional owner-operator who still uses a flip phone.

Often, the first technological layer is an ELD or satellite data, along with alternatives delivered through an app and text messages to drivers who need a reminder to share location information. Pressure to improve visibility, particularly among retailers, is building, according to Jeff Tucker, CEO of Tucker Company Worldwide. "[Consumers] want what we want, and we want it now," Tucker said. "That means the greatest sin in retail is to be out of an item that someone wants to buy. You can certainly understand the retailer's viewpoint there."

That means one of a 3PLs biggest challenges is to stay up-to-date technologically, said 10-4's Rhyan. "We have seen what Amazon and Uber have done, [when it comes to] thinking about the end user of technology," Rhyan said. "Now that people can use Amazon and Uber and Domino's online from home, they are finding they have to come to work and use another, older approach. We wanted to create a process at work like they have at home."

NFI's Broering also stressed the importance of a traditional approach and customer sensitivity. "The rest of visibility communication is EDI and [managing individual communication like] good old phone calls," he said. "We believe in a very healthy dose of individual commercial relationship development, combined with technology."

> “We want to provide shippers with as many updates as possible. We want a portion of our contacts to be automated, but we are not going to be the ones to mandate that,” Broering said.

His conclusion, that “there is a value in doing business the way shippers want to do business,” was a key value every other 3PL also identified.

The path of freight visibility away from a reliance on older technology and phone calls didn’t happen overnight. “A lot of carriers have had tracking devices in tractors for a long time,” Allen Lund Company Vice President Kenny Lund said. “We were involved probably 10 years ago in a pilot. The broker would get the information from the telematics device and was supposed to get the okay from the truck line to give it to the shipper. But nobody at the carrier would give that okay.”

Lund and many other 3PLs said some variant of an attitude that “carriers don’t like Big Brother” helps to explain that reluctance. It was the same story with early GPS tracking technology, Lund said. Carriers always wanted to control the flow of location information. But that is changing fast. Echo’s Dave Menzel illustrated the pace of change in freight visibility information. “We expect a greater rate of change over the next 18 months than we have seen over the last 18 months,” Menzel said, adding that more and more carriers are willing to provide tracking information collected through smartphones.

“We have seen new technology players enter the market throughout the past year trying to gain market share, which has consequently encouraged existing players to enhance their product,” said England Logistics Vice President of Brokerage Services Shaun Beardall,. Another factor Beardall cited was the lower price of technology, making enhanced services more accessible. “Not only does the market have a larger selection of tools and resources to provide this visibility, but we are also seeing better quality at a lower price point.”

ALC’s Lund said, for example, that five years ago it cost $100 to install a device that monitors temperature for produce shipments. Now the price has dropped by two-thirds, providing what he called a valuable insurance policy for product quality at destination that avoids a costly spoiled load and a disappointed receiver. Other technology has lowered the cost of locating a truck to $5 or less per device, which makes some shippers and receivers unwilling to pay at least $30 more per load for cargo information.

Several 3PLs illustrated the accelerating shift. At ALC, shippers still receive 45% of visibility information through EDI and spreadsheets. Lund believes the shift to using smartphone tracking will grow quickly over the next two years to approach 80%, and eventually more, as acceptance of the need for carriers to share information grows, in part due to 3PL and shipper pressure to provide visibility data.

At TQL four years ago, 100% of freight visibility was delivered through EDI and spreadsheets. Today, customers can use TQL’s own system, a Web portal, or a mobile app as well as traditional methods. Broering said the use of location technology from carriers to provide visibility data to his unit of NFI has risen seven-fold in just three years.

Nevertheless, there are no industry-wide statistics to pinpoint how much the approaches to freight visibility have changed. The opportunity beckons for a more detailed survey of the transition. In the absence of such data, multiple 3PLs illustrated the shift by relating their own experiences with the transition. Sunteck TTS Senior Vice President Jeff Brashares described the process and payoff from increased freight visibility. He cited a major retailer that insists on daily reports for all shipments, not just for the scheduled day of arrival, but also for three days out. Delivering that visibility has led to the retailer making an eight-fold increase in the number of loads they move annually via intermodal, Brashares said.

At Tucker Company Worldwide, CEO Jeff Tucker described how data can be used to create value far beyond transportation savings by adopting a collaborative mindset to serve the shipper. In one case, the company was able to identify large cost reductions and unlock valuable insights for a customer that has significant manufacturing facilities. Because the company was able to use the data to analyze the value of a particular manufacturing decision, it was able to determine the best time to replace metal in all of its production equipment.

Broering cited examples of how bad information can reverberate through an information system, a circumstance that forces 3PLs to be resourceful and have systems in place to unscramble an error. "For example, someone at a receiver inputs data that shows a shipment was delivered and the carrier was released at 10 a.m., when actually the driver couldn't leave until noon," he said.

> "Inaccurate data means the shipper doesn't know their load was delayed or detained, the carrier isn't aware that the driver lost two hours that could further delay freight and the 3PL that is trying to manage the process [and help the shipper make data-based decisions] also is confronted with a false sense of reality."

Barnes of project44 emphasized both the value of freight visibility and the changing expectations around it in a different example. "It's critical to get visibility into more than just location status of a truck, and dig into the SKU level to enable proactive inventory management," he believes, by providing visibility into inventory. That empowers the shipper to leverage the information and improve profitability. Too many 3PLs are missing opportunities, Barnes insisted, by relying on call centers to provide information instead of transitioning to create an end-to-end view of all inventory in-transit and at a warehouse, distribution center or store. "There is a long way to go," he said. "Now it is just a matter of businesses going out and making that transition."

One of the areas that is generating intense attention from 3PLs is how their visibility systems today are perceived by shippers in an environment where technology is changing the way those groups can and do communicate. Part three of the report explores this issue.

III. Shipper and 3PL Visibility Perceptions and Expectations: A Complex Picture

The opportunities to further improve freight visibility through dynamic applications of technology have been accompanied by a complex set of perceptions and expectations as 3PLs seek to tighten their commercial bonds with shippers.

3PLs participating in this report insisted that they have made significant, steady improvements in freight visibility for their shipper customers. While citing the need to continue enhancing visibility, they pinpointed a complicated web of factors that affect visibility. These include diverse customer needs, differing paces of technological advancement, a complex data aggregation process, a need to further educate shippers about visibility and several other considerations.

Choptank Transport's Turner offered a broad perspective about visibility. "This goes back to whether any of us were ever happy with technology," Turner said. "We are always enhancing it. We are listening to customers to hear what they want. What matters to one may not matter to another one. We have to be able to cater information to all of their various needs. There is never a one-size-fits-all."

One focal point for visibility was a report by Penn State University, based on surveying 10,000 businesses, which gauged the importance of 3PLs' technology and visibility to shippers, and 3PLs' success in providing it. In the

image courtesy of 10-4, a Trimble Brand

Penn State report, published late in 2017, shippers identified a 35 percentage-point information gap between their expectations and 3PL delivery of visibility information.

That perception of an information gap generated some media attention and inaccurate conclusions by focusing on the latest percentage information, without noting how much progress 3PLs have made to address that situation over 15 years. The gap was as much as 62 percentage points in 2002 and was reduced to as little as 26 percentage points in the 2016 survey.

"What I learned from the survey is the need to do a better job of educating customers and vendors about the value of technology investments to make the changes and improvements they want and the need to ask the question of whether this is something they want, or we want," said Coyote Logistics IT solutions analyst Stephen Bindbeutel.

Another survey, done by IHS Markit last year, with support from the Transportation Intermediaries Association (TIA) and other groups, measured spending priorities for both shippers and logistics service providers and found they were closely aligned. TMS investment topped both lists, with visibility standing in second place for 3PLs, and in third place for shippers, with related business intelligence sandwiched in between the customers' other two top priorities.

3PLs that participated in the IHS Markit report underscored the fact that delivering freight visibility to customers is a far more complex task than a single statistic can capture. Rhyan of 10-4 Systems said the percentage gap was a matter of concern because perceptions can turn into reality over time, and damage long-term shipper-3PL relationships. He also said there are some 3PLs whose visibility is best in class, while others lag behind the leaders, which can foster the impression that a significant visibility gap exists.

L&M's Askren agreed, saying the fact that the presence of multiple information visibility channels – from EDI to the latest apps -- may have created the impression among shippers that all 3PLs have every one of those systems in place. That just isn't the case, given the size and diversity of the industry, Askren said. Askren underscored the importance of migrating 3PL systems to go beyond a simple transactional approach, asking questions about whether they want to save one cent per mile or work in partnership to find approaches that will help them boost sales output.

"We try to become more important to customers," he said, by showing them that decision and execution metrics based on factors such as identifying wasted time or the impact of a shipper's decisions on their customers can be just as, or even more, important than on-time and cost per mile information.

Bindbeutel outlined the value of collaborative transportation management to sustain the long-term relationships. That means keeping to the commitments to move loads as agreed, rather than pushing them out to a later schedule because of capacity constraints like those that exist today. That approach builds trust that can broaden the relationship beyond transactions, he said.

Kenny Lund of ALC linked shippers' changing expectations to the higher expectations created by Amazon. However, he noted, there are very significant differences between what 3PLs are being asked to deliver and an individual online order. It's a matter of data aggregation, he explained. Brokers must provide very sophisticated data aggregation from a wide variety of delivery systems, sprinkled through a fragmented truckload sector with tens or hundreds of thousands of carriers, and just a 2% market share for the largest one. "Shippers don't want to aggregate that data, so they need brokers to provide that service," Lund said. Menzel agreed, also stressing 3PLs role in data aggregation.

“If shippers are using 50 vendors, they don’t want unique solutions from all of them,” he said. “They want that data all in one place.”

And there is a related complication that affects perception, several 3PLs noted. Delayed shipments can result from a mistake such as a wrong pickup address or bad directions. Those kinds of errors aren’t the fault of the visibility system itself, Lund said. “Shippers can see individual bad information incidents as an indictment of the whole delivery system, which is a mistake.”

Cost is another factor that puts the freight visibility responsibility on 3PLs. Customers that are under pressure throughout their business aren’t enthusiastic about paying for visibility systems themselves, Lund and others said. Brandon Arnold of Intelligent Logistics, among others, emphasized a greater need for education.

“Every time a new technology comes out, it becomes the new thing,” Arnold said, leading shippers to conclude that communication from the 3PL is lacking, when in fact it isn’t. RLS Logistics’ Leo said, “3PLs have been in the forefront in applying technology. We need to do a much better job of raising awareness of our capabilities.” “Committing to freight visibility requires technical expertise and significant resources, not to mention a cultural shift,” Byrne of TQL said.

Visibility also can fall short if a 3PL lacks what Andy Berke of Blue Grace Group, along with others, termed “a consultative mindset.” He explained that technology advancements give shippers “a key to the castle” to see all the information they want at any time through Web portals.

However, he added, that access becomes more valuable when the shipper can use the data effectively. Tommy Barnes agreed. “Visibility can be a means for 3PLs to help shippers manage inventory,” Barnes said. “If you can use visibility as a lens to be more effective in that area you are talking about real dollars."

Still another factor, which several logistics providers identified, is competitive pressure among 3PLs. A broker can use savings from automating some functions to pursue market share by reducing costs and commissions without providing enough freight visibility to the shipper, leading to unfulfilled expectations.

Echo Global's Menzel said considerations include market forces and size. Larger carriers that have dealt with shippers and 3PLs have created one set of visibility expectations, but as the market has gotten stronger, the shippers are turning more to 3PLs to provide capacity.

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One other aspect of freight visibility is on the receiving end, several 3PLs said. "A lot of visibility is user acceptance," said InTek's Austin. "Customers want all the tools. They want the glamour, but it isn't any good unless they use the tools and get good information."

Still more factors affect visibility. "We have to be upfront from a technological standpoint," said Robert Kemp, president of DRT Transportation. "I am providing a value-added service, not just covering a load. I have to be better and add more value." He believes shippers' perception of 3PLs visibility is improving, but it is influenced by whether the broker is higher or lower on the customer's priority list. NFI's Broering said 3PLs need to pay particular attention to providing information both before and after shipments move to provide complete visibility.

As 3PLs continue to focus their technology on customers' visibility needs, the explosion of available data and the pressure to support providers' own needs are creating another round of complexity. The fourth section of the report assesses how 3PLs use technology to address shippers' needs amid the rising flow of data.

IV. 3PLs' Information Systems Focus on Freight Visibility in a Dynamic Environment

Nearly a dozen experts contacted for this section said the crucial need is for 3PLs to sift through information to deliver data customers want. "Real-time information that is actionable is what the customers want to see," said project44's Barnes. "3PLs are getting better all the time at providing that. But to do so at a price point that maintains their margins, they need the right technology partner."

That message is being heard loud and clear. 10-4's Travis Rhyan said there has been steady progress over the last five years in 3PLs' ability to have a greater focus on technology directed toward shippers, over and above their internal needs. "There is a tremendous amount of that activity, and that is good for the whole industry, with the growing recognition that customers are going to need better information, whether it is bought, built, rented or leased," Rhyan said.

Dave Menzel agreed. "We are making big investments in analytics. Shippers are looking for ways to aggregate data on their end. There is always the challenge of handling information, and how the customer wants to receive it. There is significant attention on how to deliver information on exceptions.

Menzel compared the process of communicating exception information to "finding the needle in a haystack" of data. For 3PLs that do managed transportation, he said, the focus is on customer needs. 3PLs must be flexible and adaptable, said Coyote's Bindbeutel. "We work with everyone from a one-man show to hundreds of big fleets. We want to offer multiple layers and channels of information that best fit their needs, so they can focus on what they can do best."

Bindbeutel compared data to crude oil, saying neither one is worth very much until it is refined. "There are so many data points for a shipment, even a local run. Customers don't want to know where a load is every 16 minutes. They want to know where it is when there is an exception. That can be hard to locate because there are so many loads and so many GPS data points out there."

Serving both internal and external technology needs is critical as well. "Decision and execution metrics can be just as important as on-time and cost per mile metrics from transactional systems," L&M's Askren said. The ability to migrate software platforms to move beyond an internal, transactional mindset is important, he said, as systems migrate to a significantly more strategic focus.

"A lot of us were on a journey to clean up shop inside the four walls," said Schneider's Van Zeeland. "The foundation was put in place first. The best 3PLs go further and are deeply committed to the technology we put in front of customers."

As the amount of available data grows and will continue to grow exponentially, Van Zeeland said the key question for 3PLs is to determine the underlying value of the data to both Schneider's business and the customer's.

The effects of the explosion of data was outlined by others in different ways. Geoff Turner offered the following perspective. "We had some customers say we want carrier updates every five minutes. What on earth are you going to do with all that information? We have tried to educate customers so they aren't getting a bunch of data that nobody is ever looking at."

Some shippers start out by receiving 50 or more emails hourly before discovering that they don't want that many, Arnold of Intelligent Logistics said. In fact, he said, they quickly say to tone down that information flow to a single report. Kerry Byrne termed data overload "a lurking concern."

"Having a massive database of potentially valuable information is great but knowing how to sift through that information to provide value to specific customers can be challenging," he said. It's important to send customers data that is most meaningful and can provide insight into making improvements."

NFI's David Broering said the issue of "too much information" is inevitable as 3PLs move from "a garden hose to a fire hose of data, and that fire hose data can be both intermittent and sketchy." The information must be presented in a correct context to avoid the risk of "paralysis" as carrier, shipper and the broker try to resolve a situation.

Kenny Lund acknowledged there is always a danger of information overload for shippers. "The question is how to get the information to the shipper in a way they can use it," Lund said. "The amount of data out there is not the issue."

A lot of the time brokers confuse supplying a large amount of technology to the customer with giving them access to a huge number of carriers, said Andy Berke of Blue Grace Group. The key question is how the information can be used to increase efficiency for the customer and its whole organization. Lund believes the 3PL data adds value because having people who understand its value in transportation is worth more than those who develop the data without understanding transportation.

"But the technology itself isn't the value. It's the information that brokers provide from all those carriers that enable customers to gain the value," said Berke. "Technology isn't very valuable if it is just treated as a commodity."

"Today's top 3PLs can prioritize the information that matters to their shipper customers. Shippers do not need to know the status of every shipment. They need to know the status of every shipment at risk," said project44's Barnes. "3PLs need to find a technology that accelerates their ability to sort through data and manage exceptions."

"The more a 3PL can make recommendations on how to route freight, schedule shipments, optimize loading/unloading and alert customers to signs of trouble, the more a 3PL will be perceived as a true supply chain partner," said TQL's Kerry Byrne.

The 3PL industry's commitment to freight visibility cannot be assessed, or advanced, without discussing the level of financial commitment it makes. This section evaluates how 3PLs are addressing the financial realities of providing freight visibility.

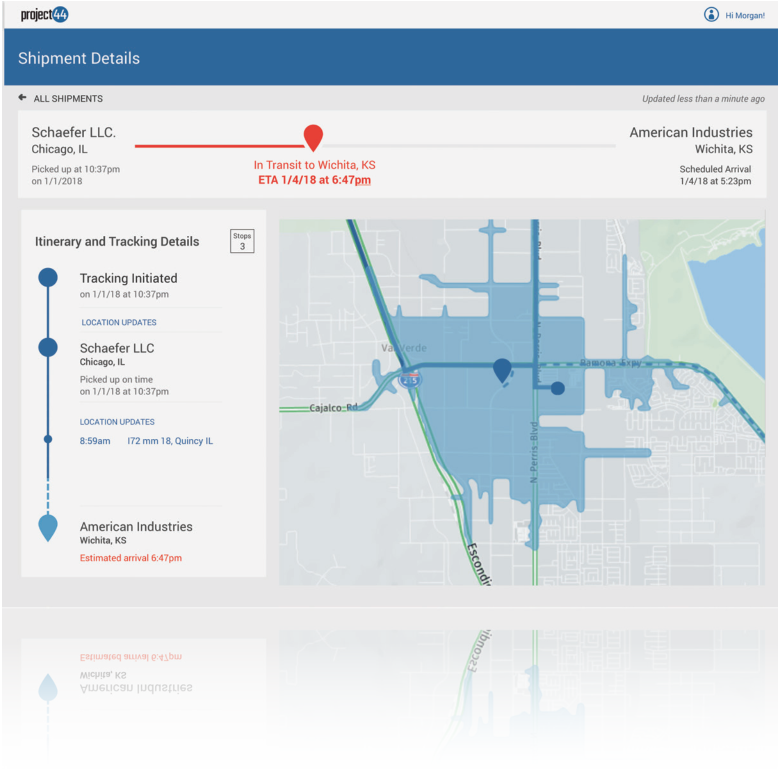
V. 3PLs' Financial Commitment to Expand Freight Visibility

Every 3PL participating in this report identified significant value from commitment of financial resources to support visibility and other technological projects. "As an industry, we absolutely have the commitment to increase the priority of improved visibility," said England's Beardall.

Beardall cited last year's "Road Ahead" survey by IHS Markit, which found that 72% of logistics service providers polled planned to spend more on technology in 2018, including TMS, visibility and various other software. "Our financial resources as an industry are getting stronger," said Geoff Turner, making a broad point about overall commitment. "There is a lot of money in our industry to support technological innovations, and we as 3PLs have a strong track record of supporting innovation."

There are a variety of opinions – and approaches – to those financial commitments. One such step was Blue Grace's doubling of technology spending in each of the past two years following a substantial 2016 commitment by investor Warburg Pincus, said Andy Berke. Meanwhile, TQL's Kerry Byrne, said IT project spending this year is increasing 16% over last year to $29 million in 2018. "We have also been developing our own proprietary software since day one, so we have both the resources and experience."

Others back a different approach. "Yes, we have the financial resources," said mid-sized broker RLS Logistics CEO Russell Leo. He said that technology spending increased 65% over the past four years. "We are benefiting with the costs of technology coming down, which makes it more affordable for small or mid-sized brokers. It is important to note that while technology spend has increased; labor costs are



decreasing. We are doing more and better work with fewer people, and fewer manual processes.

James Askren said the spread of cloud technology and APIs have gone a long way to level the playing field for technology between larger 3PLs and smaller competitors. “Whether you buy outright or use SaaS, the smaller and regional brokers can compete with the national players,” he said, referring to Software as a Service. “We as an industry are certainly willing to commit resources.”

Brandon Arnold said the fast growth of visibility options is making the systems more affordable while at the same time new functionality is being added.

At DRT Transportation, Robert Kemp said technology investments pay off in other ways, such as enabling the company to win a carrier of the year award that generates prestige and illustrates the 3PL’s value. Covenant’s Paul Newbourne also believes 3PLs’ size makes a difference. Larger companies can use their scale to make the investments that are necessary. “Those who don’t have the financial resources are going to have a hard time,” said Newbourne. Covenant Solutions’ parent is Covenant Transportation Group.

Mid-sized 3PLs are asking themselves how to fund those investments, while some can use SaaS applications to present themselves as having visibility, Newbourne noted. Largest broker C.H. Robinson Worldwide announced plans to spend the majority of its 2018 capital expenditures, totaling as much as $70 million on technology.

XPO Logistics, the nation’s third-largest freight broker, invests more than $450 million annually, including its trucking, intermodal, final mile, warehousing, and brokerage activities. The exact amount of freight visibility investment for brokerage wasn't disclosed, though the company last year launched a mobile app to automate brokerage functions and connect with its freight optimization process.

XPO's report said, "great technology in the hands of well-trained employees is the ultimate competitive advantage in our industry." It cited four areas of current investment including visibility and related activities such as automation and customer service. Schneider identified increased technology spending as part of a 2018 capital budget that could reach $375 million, without saying how much more technology spending would increase.

There is one other aspect to 3PL financial investments, which was identified by Jeff Brashares of Sunteck. It's the customer benefit without making their own financial commitment whenever those shippers access any of the freight-visibility options that 3PLs paid for themselves.

The simultaneous effects of a strong freight market and the ELD mandate have introduced new and powerful variables into the freight visibility process, with immediate and near-term impact. This section moves beyond the importance of financial capabilities to evaluate and identify the interplay between current market conditions, the recent ELD mandate and freight visibility.

VI. 2018 Markets Are Changing Freight Visibility

3PLs participating in the report identified at least eight notable changes in freight markets due to the ELD mandate, rising volume, rising rates, and the growing need for visibility. Brokers stand to gain as tighter capacity has leveled the playing field for small- to mid-sized carriers that have ELDs, as larger carrier competitors' excess capacity is limited, several 3PLs insisted.

Larger fleets have less elasticity in their capacity, explained Shelli Austin, which creates a domino effect in the search for ever-scarcer capacity. More freight is being channeled to load boards, benefiting smaller fleets and the 3PLs that work with them. One 3PL said their transactional freight has doubled from a year ago as the market heated up.

"This market is an opportunity for 3PLs to gain significant market share and to insist that they are seen as standing shoulder-to-shoulder with top carriers," said Jeff Tucker, Tucker Company Worldwide. "For most large shippers, the top 100 carriers are the only names they have heard, along with maybe a few regionals. As capacity is stretched thin, the largest carriers can't cover extra loads, so the shippers turn to brokers. If I need to, I can snap my fingers and come up with carriers who want that lane and want more of it."

Kerry Byrne of TQL linked higher rates and customer expectations. "That increase in cost comes with a corresponding increase in expectation that what they pay for is not just a truck to get their freight from Point A to Point B," he said. "They are going to expect that the service they receive from their 3PL will justify the cost."

Experts identified at least seven other effects from the interplay of ELDs and the current market.

1. "As carriers can get better rates, [3PLs] should be able to squeeze more visibility information out of carriers", NFI's David Broening said, because fleets can use part of the higher revenue to support needed technology.

2. Travis Rhyan, 10-4 Systems, raised a fundamental point connecting the market, ELDs and covering loads. "Some medium or smaller shippers are having a hard time getting capacity, especially for what they are paying. At the same time, if [the carrier] isn't compliant, they won't get the business. With the ELD mandate and the capacity crunch happening simultaneously, it could open the door to more visibility. If you can provide the capacity, why not get visibility too?"

3. James Askren said tightening capacity will force 3PLs to be more proactive to give customers more "upstream visibility" from ELDs and other information sources extending beyond a particular load to identify upcoming capacity choices.

4. Shaun Beardall said the current market has increased the need to streamline and automate visibility processes that help to build customer relationships with shippers, who make business decisions based on how well those visibility needs are accommodated.

5. Russell Leo of RLS Logistics believes that as the fragmented ELD market settles down, a critical question will be how much ELD information that is controlled by carriers will be shared with 3PLs.

6. Still another change was illustrated by Schneider's Erin Van Zeeland: a wider window into driver availability. As capacity tightens and fleets have more choices about driver utilization, she recounted incidents that never happened before the mandate. Often, carriers being used by her division at Schneider will put 3PLs on hold while they check with drivers about available hours.

7. "The mandate forced us to have conversations we didn't have before," said Robert Kemp, as ELDs curtail drivers' ability to legally run more miles. The result for the mileage band of about 600 miles has been "massive" rate increases, which have on occasion reached close to 40%.

Kemp also identified an eventual benefit as all parties better understand the mandate. He wasn't alone. Brandon Arnold said ELDs aren't changing the market yet because the mandate is only a few months old, but there could be significant changes this April when violators can be put out of service, instead of just facing fines before that date.

"Carriers are still trying to wrap their heads around the mandate," Arnold said. "They are trying to be sure guys can do a full complement of hours, and not get caught in a 'tween' situation where they run out of hours and can't deliver the load." "Right now, ELDs are not changing anything [regarding visibility]," said Geoff Turner. "We will see a transition over time, however. We will hover back and forth until there is a norm. The ELD could emerge as the transmitting device for that information." Paul Newbourne also expects that ELDs should aid freight visibility, as businesses gradually learn to tap into the device's benefits, such as location data.

One other 3PL who anticipated a gradual shift was Menzel. He said the process of gathering information from ELDs is an ongoing process that is accelerating, and ultimately will have a positive impact on visibility. Meanwhile, freight visibility from ELDs will create an interesting dynamic from a legal and risk management perspective, as increased “control” or what information a 3PL knew or should have known could lead to vicarious liability concerns.

In addition to the potential creation of ideal technological advances to dramatically enhance visibility, the future also will be focused on specific approaches. They include blockchain, still more steps to insure capacity, API-based approaches, more efficient use of driver resources and even a possible fundamental change in freight rates.

VII. What’s Ahead for 3PLs and Shippers? Better Visibility

There is wide agreement among 3PLs that technology and future freight visibility are closely intertwined, on a promising path.

“We can still employ more technology,” said Robert Kemp, moving to a situation where 100% of visibility information is moving through the latest technology, instead of legacy systems such as EDI. “Look at it this way. Eleven years ago, we didn’t have an iPhone. What are the next 11 years going to be like?”

The big questions going forward are just how that technology and visibility can best be tied together, and what the scope of that interconnection needs to be. Several participants in this report shared their insights and goals.

Tommy Barnes of project44 started with the statement that, "80% of the data needed to effectively run a supply chain resides within partners. But legacy solutions like EDI, email, phone, FTP and fax offer incomplete connectivity across supply chain partners, blocking end-to-end visibility. Barnes went on to explain that modern connectivity feeds like APIs are the necessary foundation to achieve seamless interoperability across suppliers, carriers, systems, and customers by providing standardized and real-time visibility into pricing, routing, tender, load tracking, delivery, and payments.

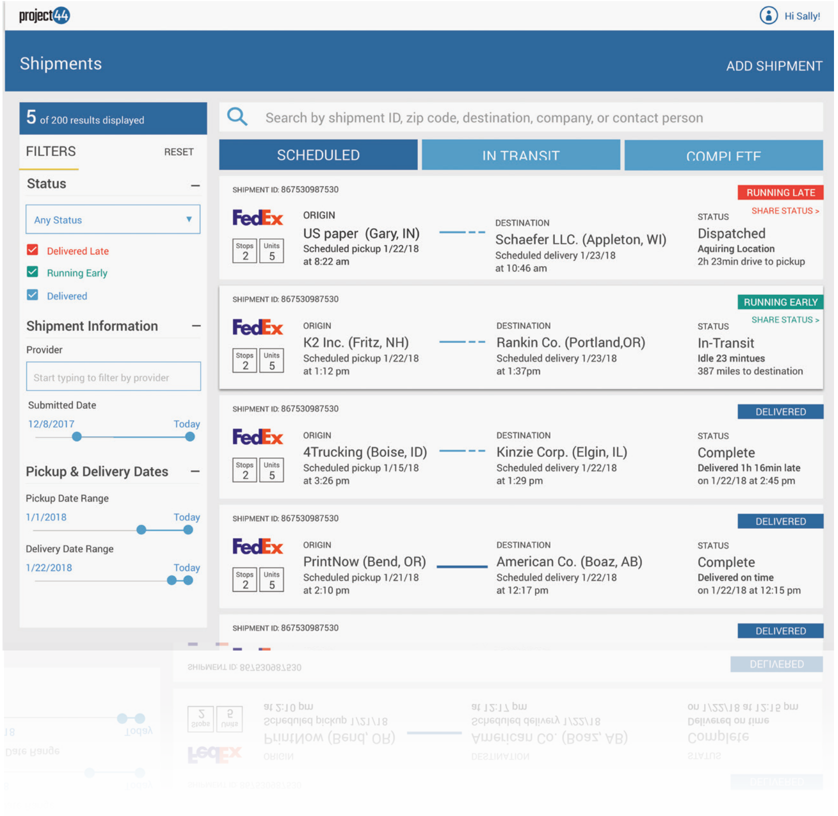
"It is very important to consider that people tend to think of freight visibility in a modular fashion, one that is mode-specific," said Barnes. "However, the future of visibility will be movement-specific. To succeed, companies will have to provide door-to-door visibility of a shipment across any transport mode. Customers are going to want to see one layer of business visibility for the entire shipment, from the port all the way to the end consumer."

"The companies that win will be the ones who can stitch the data together most effectively," Barnes said. "We are laser-focused on that. That means we can deliver a deeper concept of shipment visibility with a multi-modal and broad geographic solution versus just a single mode." Two other experts also identified the need to close gaps in intermodal freight visibility as international trade growth has surged over the years, including a 2017 spurt.

"Shippers and customers are looking for the same information delivery system for every mode," said Jeff Brashares. "We need to get to that point where everyone can get information the same way. I don't think any one 3PL has gotten to the same level for every mode of transportation. There are still some gaps."

Erin Van Zeeland also pinpointed a multi-modal view, from her perspective in leading Schneider's non-asset-based businesses both in the U.S. and abroad. "There is a whole chain of connectivity for the product beyond trucking," she said. "We really owe it to our customers to connect the data all the way through the supply chain. Whatever visibility process a provider has, there is one non-negotiable fact. We have to know where the product is."

As technology evolves, several 3PLs who contributed their insights to this report mentioned blockchain. Blockchain, the much-discussed digital ledger, is the technology behind crypto-currencies such as Bitcoin. Blockchain could tie freight information together among individual shippers, transporters, and receivers on a decentralized database. "Blockchain has been a big topic, but I am not sure how it is going to work out," said Russell Leo. "It could be very relevant because a lot of information from tracking services isn't going directly to the shipper right now."



Randy Mullett, a veteran freight executive who is a consultant for YRC Freight Worldwide, asked this question: "How does blockchain fit in with 3PLs? Is it a threat? Or is it better to be a trusted source inside someone's blockchain." That question remains unanswered today, as stakeholders wait to see how applications for blockchain will evolve.

There also are relevant questions for 3PLs about the impact of government policy and actions. "Part of the government's role is to make sure we have a few things happening," Mullett said. "First and foremost, that means adequate capacity to move the country's goods through infrastructure investment."

As the Trump Administration's $1.5 trillion infrastructure proposal is developed and debated, Mullett identified a variety of other topics. They include workforce development to address shortages of drivers and other logistics workers as well as the development of technology such as platooning and autonomous vehicles. There also is potential for government to re-evaluate the impact of the ELD mandate and its connection to hours of service rules.

Van Zeeland and Leo both highlighted the future potential payoff in efficiency from an improvement in one aspect of the ELD mandate: detention and delays. "Some shippers are not very efficient with drivers' time at their site," Schneider's Van Zeeland said. "With ELDs we need a lot more time management. There are a lot of locations where we don't go unless there is an efficient way to manage the in-gate, out-gate process."

"We think detention is going to become more and more relevant with the ELD mandate," Leo said, connecting the mandate to both improved visibility and freight rates. Better detail through increased visibility will facilitate a move away from blanket rate hikes as freight volume increases. Avoiding the blanket approach can reward efficient shippers, he said, with more favorable rates than "bad actors" who consistently delay drivers.

Brashares and others offered a final word, also relating to rates, and the ELD mandate. "If the situation in the market continues as it is now, freight could be measured by the time it takes to do a load, not per mile. It really will be about how long it takes to move a shipment," Brashares said.

ENDNOTES

TIA Project Sources (alphabetical):

Brandon Arnold, Vice President of Operations, Intelligent Logistics

James Askren, Director of Managed Services Division, L&M Transportation Services

Shelli Austin, President, InTek Freight & Logistics

Tommy Barnes, President, project44

Shaun Beardall, Vice President of Brokerage Services, England Logistics

Andy Berke, Vice President – Strategic Ventures, Blue Grace Group

Stephen Bindbeutel, IT Solutions Analyst, Coyote Logistics

Jeff Brashares, Senior Vice President Sales & National Accounts, Sunteck TTS

David Broering, President, N.A. Non-Asset, NFI Industries

Kerry Byrne, President, Total Quality Logistics

Robert Kemp, President, DRT Transportation

Russell Leo, CEO, Transportation Group, RLS Logistics

Kenny Lund, Vice President, Allen Lund Company

Dave Menzel, President, Echo Global Logistics

Randy Mullett, Principal, Mullett Strategies

Paul Newbourne, Executive Vice President, Covenant Transport Solutions

Travis Rhyan, EVP & General Manager, 10-4 Systems

Jeff Tucker, CEO, Tucker Company Worldwide

Geoff Turner, CEO, Choptank Transport

Erin Van Zeeland, Senior Vice President, Schneider Logistics Services

ADDITIONAL SOURCES

C.H. Robinson Fourth Quarter 2017 analyst conference call, Schneider Fourth Quarter 2017 analyst conference call, XPO Logistics Fourth Quarter 2017 SEC Filing, Penn State Smeal College of Business Logistics Report, The Road Ahead (IHS Markit), Transportation Intermediaries Association Market Report.

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