



Navigating the Digital Plate

A Guide to Transportation Management in Food and Beverage



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A recipe for success

The math is pretty simple: by 2084, the world population is expected to peak at 10.3 billion.¹ With over 2 billion more mouths to feed than we have now, scientists and food specialists around the globe are researching ways to close the coming food gap.

In the meantime, companies in the food and beverage (F&B) industry are preparing to meet scaled-up demands for production and delivery — and the market challenges that come with that.

Even without peak population levels, food and beverage companies have a lot on their plates:

- Geopolitical instability often leads to trade restrictions, which directly impact the availability of raw materials and ingredients essential for production. F&B companies reported 5% higher severe or substantial supply chain disruption over the past year, when compared to the cross-industry average of 60%.²
- Pressured cost and margins in some areas of food and beverage are dramatically lower than in other markets. For example, from 2010-2024, the average profit margin in the food processing industry was just over 8%.³
- Managing climate change and new environmental regulations presents a dual, but necessary challenge. Climate-related events in the U.S. between 2020 and 2024 caused \$746.7 billion dollars worth of damage.⁴
- Changing consumer demands for a more transparent supply chain; to know exactly where their food or drink came from and its environmental impact. A whopping 94% of consumers⁵ are likely to remain loyal to brands offering this kind of visibility to its product.

That's where technology comes in.

For decades, shipping and transportation management methods have been stagnant, making an already tough job even tougher for food and beverage companies. But today's transportation management systems (TMS) are transforming many parts of the food supply chain, bringing new levels of intelligence, efficiency, and visibility to what have been opaque and cumbersome operations.

In this guide, we'll dive deeper into the three elements of a successful TMS, using real-life food and beverage scenarios to show how each technology can transform your supply chain.

3 critical components of a successful TMS in F&B:

1

Advanced Data Reporting & Analytics

Robust, high-quality information that informs strategic decisions, enables more accurate planning, and mitigates market swings

2

AI-driven Workflows & Automation

Advanced technologies that accelerate manual processes, reduce costs, and improve outcomes

3

End-to-End Visibility

Powerful mechanisms that enable real-time shipment updates, Internet of Things (IoT) integration and proactive exception management, for increased control



Advanced Data Reporting & Analytics

Companies across all industries have turned to data reporting & analytics to inform their business decisions — and make them faster in the process. About a third of food industry companies expect to adopt big data and real-time analytics in the coming year,⁶ in hopes to gain deeper insights into trends, and focus on their core business rather than data management.

Clean, comprehensive data — both owned and partner data — is the starting point to turning it into useful decision-making criteria. Data should be:



Collected and consistent

Take stock of where your organization is storing its own data, ensuring it's free of errors and organized in a logical way.



Frequently updated and maintained

Leverage technology that requests updates in real-time to get a more accurate picture more quickly.



Robust and comprehensive

Incorporate data from multiple sources, including partners like DAT RateView, FreightWaves SONAR and Truckstop to expand your insights.



Analytics in Action

A popular big box retailer has just built a new warehouse, and you need to stock its shelves with sparkling water. But you've never booked shipments on these lanes before and have no historical pricing to reference — or which carriers to select.

With dynamic pricing estimates fueled by data analytics, you can find real-time spot rates and compare your contract rates against industry standards to find the best rates for your shipments. And you can balance price with carrier performance to ensure that shipments are delivered on time, avoiding detention penalties and other fees.

Data isn't useful until it's turned into insight: it's the analysis of the data that makes it powerful. What can data analytics capabilities in a TMS do for food and beverage companies? Here are three examples:



React faster

Change your plan midstream and adapt to fluctuating market conditions quickly and with confidence.



Plan smarter

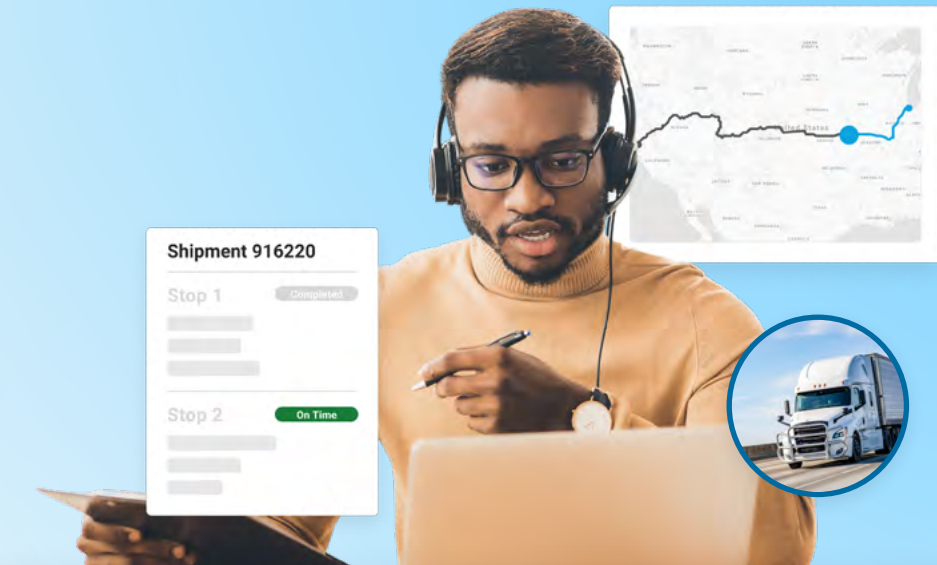
Use pricing and capacity intelligence to evaluate price differences across carriers and lanes.



Address issues proactively

Predict and proactively manage exceptions, triggering communications and improving customer service.

You don't need a data scientist to achieve these benefits. A TMS with the right data visualization will surface the information you need in a way that's easy for you — or any stakeholder — to understand and act on.



Analytics in Action

You're in the business of delivering meal kits. Every day, you must source fresh ingredients from different suppliers, which means that in a very real sense, time = money.

Data analytics makes it easier to spot late or missing deliveries, track and manage OS&D (over, short, and damaged) claims, and even pinpoint which distribution centers are keeping your reefers waiting in the heat.

With the right workflows in place, your team can stay ahead of the curve — quickly resolving issues, keeping everyone informed, and securing the capacity you need to replace missing ingredients when things don't go according to plan.

AI-driven Workflows & Automation

The introduction of artificial intelligence & its automation capabilities to the workplace is often compared to the Industrial Revolution.⁷ This transformation in how work is done, driven by groundbreaking technology, represents a paradigm shift in how society operates — a shift in which food and beverage companies are hungry for.

Increased operational efficiency is the top reason supply chain managers give for investing in AI.⁸ In an industry where efficiency, precision and compliance are critical — this should be no surprise. AI-driven solutions are saving some organizations up to 15 minutes per shipment — a significant operational cost reduction.


F&B leaders willing to invest and train their workforces in AI use can expect:

- **Improved Productivity and Error Reduction:** AI automates repetitive tasks like data entry, document management, and shipment tracking, reducing manual errors and saving time.
- **Optimized Routing and Cost Savings:** AI-powered tools analyze data to optimize delivery routes, reducing transit times and fuel costs.
- **Enhanced Compliance and Food Safety:** AI workflows help ensure compliance with food safety regulations by streamlining processes like documentation, quality checks, and temperature monitoring during transit.
- **Proactive Issue Resolution:** AI systems can identify potential disruptions, such as delays or damaged shipments, and alert teams to take corrective action before problems escalate.
- **Real-Time Tracking and Accurate ETAs:** When coupled with IoT tracking devices that provide real-time location and condition data, AI can more accurately predict estimated times of arrival (ETAs) to minimize spoilage.

AI & Automation in Action

As the operations manager for a leading producer of dried fruit ingredients, you face the daily challenge of sourcing raw materials, managing production schedules, and ensuring timely deliveries. With AI automating your order management and carrier selection, your operations become more efficient, waste is minimized, and you consistently deliver high-quality ingredients on time, giving you a competitive edge in a demanding global market.

@Swiftly where is ATM55E?



Below are the details for shipment ATM55E

Next Stop:
Delivery Address Book Round Rock
4401 N Interstate HWY 35
Round Rock, TX 78665 US

ETA:
Mon Jun 19, 00:30-23:30 CDT



What elements of the food and beverage supply chain can benefit from using a modern TMS? More than you may realize:

- **Order Management:** Automate multi-modal work orders and manage tender assignments, acceptance, and amendments all within a single, user-friendly interface.
- **Load Optimization:** Create and optimize shipments based on region, customer, product type, carrier, the value of your shipment, or other factors.
- **Carrier Selection:** Automate tendering of contracts to approved carriers at pre-negotiated rates, eliminating the need for manual negotiations with every shipment.
- **Transportation and Delivery:** Update shipment status via ELD integration or robocalls, including sending communications related to exceptions.
- **Settlement:** Generate, pay, and reconcile invoices and other documents based on business rules, and configure logic that determines how financial exceptions should be handled — all in one place.
- **Document & Messaging:** Consolidate, review, and classify communications using AI, then receive notifications and support 24/7 on order information, inquiries, order management, and delivery updates.
- **Reporting and Analytics:** Surface rate suggestions to your team automatically based on seasonality, region, carrier compliance, and more, thanks to historical, predictive, and prescriptive analytics.

While automation can take many forms in the food and beverage industry, the bottom line is that a TMS with smart automation capabilities allows you to ship more, using fewer resources to do it.



AI & Automation in Action

As the logistics manager for a producer of meals for school nutrition programs, you juggle inventory management, supplier coordination, and transportation logistics to meet strict nutritional guidelines and schedules. Enter your AI-powered logistics assistant, who automates order management, consolidating multi-modal work orders and streamlining tender assignments in a single interface. It optimizes shipments based on factors like region, product type, and carrier performance, ensuring cost-effective and efficient deliveries. When a school unexpectedly increases its order, the assistant recalibrates in real time, identifying alternative suppliers or adjusting routes to meet the new demand without delays.

By streamlining logistics, your AI assistant not only boosts efficiency but also ensures that children receive the nutritious meals they deserve, making a meaningful impact on their health and education.

Opportunities for AI-driven Workflows & Automation

- ✓ Order Management
- ✓ Load Optimization
- ✓ Carrier Selection
- ✓ Transportation and Delivery
- ✓ Settlement
- ✓ Document Handling & Messaging
- ✓ Reporting and Analytics



End-to-End Visibility

A quick glance at the [USFDA Food Safety Modernization Act \(FSMA\)](#) makes it clear that the food and beverage industry is one of the country's most regulated sectors — and for good reason. With so much at stake, it's critical that your TMS provide end-to-end visibility for total shipment control. The right capabilities will not only improve your regulatory compliance, but also help protect your margins by reducing spoilage and boosting your brand's reputation among carriers, partners, and customers. And with only 6% of businesses reporting full supply chain visibility,⁹ those that have implemented cloud-based visibility solutions report a 68% improvement in end-to-end visibility within their supply chain operations.¹⁰ Those results speak for themselves. So, what should you look for in a visibility solution?



1. Real-time tracking

The flexibility, convenience and speed that come with continuous shipment monitoring make real-time tracking a priority for whatever solution you purchase. These capabilities allow you to effortlessly navigate the shipment lifecycle with comprehensive tracking and tracing capabilities that cover single-, multi- and omni-modal transportation modes. To take the benefits even farther, by attaching an IoT tracking device to your shipping container or pallet allows you to monitor temperature, humidity, light exposure and more (functionality depends on the actual device.) With this information F&B companies can drastically improve quality assurance, on-time performance and even potentially reduce product damage before it occurs – keeping you and your customers on track.

2. Integration and Interoperability

Systems have to talk to each other. To ensure consistency and compatibility across the supply chain, ensure a healthy integration and interoperability framework is in place and includes standardized data formats and protocols. With the end goal of creating a unified view of operations, the solution should offer robust APIs that connect seamlessly with your existing ERP, TMS, WMS and carrier networks.

When it comes to shipping in the commercial food and beverage industry, oftentimes companies operate with a mix of older systems that weren't designed to communicate with modern platforms. By choosing a solution that can effectively bridge the gap, you can transform disconnected systems into a cohesive, efficient operation that drives business success.



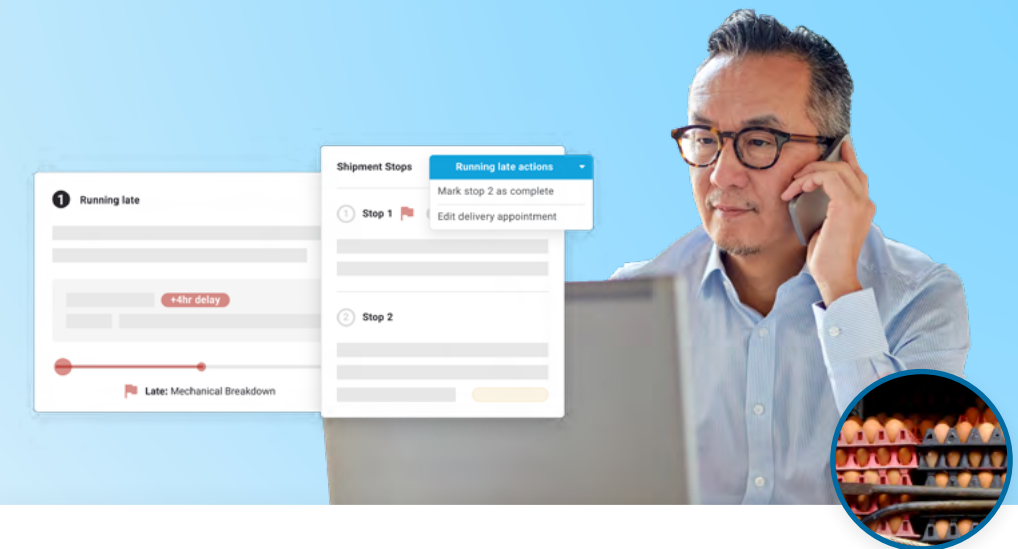
Visibility in Action

Because of capacity constraints resulting from a hurricane in the Gulf of Mexico, your usual, proven carriers aren't available to ship loads on the spot market. Unfortunately, your produce delivery dates are set in stone. Now you have to pick a newer, unproven carrier – or risk fines. Having visibility into carrier performance directly inside your TMS is indispensable, so you can make an informed decision and help ensure your goods are delivered on time.

3. Data Security and Compliance

Between 2018 and May 2023, there were 157 confirmed ransomware attacks on the food, beverage, and agriculture industries, resulting in nearly 700,000 breached records and \$1.36 billion in downtime costs.¹¹ While cyber-security may not be top of mind for food and beverage supply chains specifically, it isn't just about protecting potentially sensitive shipping information - it's about maintaining the safety and integrity of the products we all consume.

There are standard data security policies that apply to all businesses. Then, there are the more specific requirements for food and beverage. Look for a solution that has strong encryption and access controls, so that FSMA-specific requirements are met, and cold chain systems abide by Good Distribution Practices (GDP) and Good Manufacturing Practices (GMP). That way, you have a clean (yet digital) paper trail that can never be lost or altered, giving you confidence during audits and peace of mind in your daily operations.



Visibility in Action

In a manual or distributed environment, you can spend most of your time on the phone, trying to identify and locate shipments. Updates might be captured only once per day. In these environments, you have very little visibility into late shipments, delays due to detention, or other exceptions, leaving little time for proactive customer outreach, much less proactive exception management. These situations can result in fines, spoilage, and poor customer service. With an ELD-connected partner/carrier network, shipment updates can happen throughout the day.

Stirring up success with Shipwell

All shipment types come with their own unique set of challenges — and leaders in the food & beverage industry know this especially well. Moving freight successfully through the supply chain comes down to mastering those specific challenges.

Shipwell's TMS combines powerful technology with an easy-to-use interface to help you lower costs, improve customer experience and keep your businesses agile. Designed with cutting-edge advancements in AI, our platform acts as the central hub for your supply chain. It empowers leaders to make rapid, informed decisions based on system-wide insights that other technologies can't match.

Optimize your supply chain operations with:

- ✓ **Real-time Tracking:** Monitor shipments in real-time to ensure timely deliveries.
- ✓ **Automated Dock Scheduling:** Simplify dock appointments and reduce manual coordination.
- ✓ **Dynamic Load Matching:** Optimize routes by automatically matching loads with available carriers, and integrations with FedEx, UPS, USPS and more for last mile delivery.
- ✓ **Predictive Analytics:** Prevent delays with insightful data-driven forecasting.
- ✓ **Settlement Automation:** Speed up payments and invoicing with automated settlements, with extensions for TriumphPay, NetSuite, and QuickBooks.
- ✓ **Optimize Costs:** Adapt to market shifts, maximize RFP value, optimize costs across all lanes, and streamline bids for efficiency.
- ✓ **Improve Customer Experience:** Deliver exceptional experiences by proactively resolving issues, providing clear ETAs, ensuring on-time deliveries and fostering better communication.
- ✓ **Scalability and Resilience:** Establish a sustainable foundation with ERP integrations including Infor, Microsoft D365, NetSuite and SAP, that will grow with you and quickly adapt to dynamic market changes.
- ✓ **Speed to ROI:** Go-live in as little as 8-10 weeks.



“

The decision to move to Shipwell was a turning point for us. From real-time visibility to completely automated settlements, Shipwell's modern architecture and responsive support have been instrumental.

We're excited to explore even more capabilities, like AI and IoT integration, as we continue to optimize our logistics operations.

Scott Lane, VP of Supply Chain, Beaver Street Fisheries

With Shipwell, food and beverage companies have achieved...

40% reduction in shipping costs & miles driven

50% reduction on chargeback claims

75% ROI increase through spoilage reduction

96% supply chain visibility coverage

98% on-time shipment delivery

Take the next step

Are you ready to find out what Shipwell can do for your supply chain? [Visit our website](#), [contact one of our experts](#), or [schedule a personalized demo](#).

About Shipwell

Shipwell gives shippers and their teams the tools to run smart, resilient supply chains. Our AI-integrated transportation management system (TMS) combines power and ease of use to lower costs, improve customer experience and keep businesses agile. Put your logistics operations in the fast lane with real-time visibility, seamless connectivity, and dynamic automation. See how our all-in-one platform keeps your supply chain moving at shipwell.com.



Endnotes

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