



# What to Look for in a TMS

Finding a total solution





## It's all about the numbers.

It's all about the numbers. Successful transportation businesses routinely do the math to determine how they measure up. Those calculations drive the decisions that enhance efficiency and utilization, reduce costs and operating ratios, and lead to improved profitability.

However, the vast and growing amount of data available to motor carriers, freight brokers and third-party logistics providers can easily lead to information overload. Coupled with the need to make data actionable across a range of business management processes is the critical end-to-end visibility and control necessary to make the right decisions.

Transportation Management System (TMS) solutions are the key to making it all add up. TMS solutions are being applied across a full range of transportation

industry segments by for-hire and private carriers. Included are truckload, less than truckload, Final Mile, refrigerated, flatbed, bulk, intermodal and a range of specialized operations such as auto haulers and fuel suppliers, among others. They are also employed by non asset-based freight brokers, 3PLs and logistics services providers.

Whether your challenge is growing the top line by boosting freight volume and improving customer relationships, or improving the bottom line by managing an ever-growing range of business needs and working to control costs without sacrificing service quality, choosing the right TMS solution is the first step.



## Defining Needs

TechTarget, an enterprise resource planning resource center for business and IT decision makers, defines a TMS as: “software that facilitates interactions and serves as the logistics management hub in a collaborative network of shippers, carriers and customers.”

But different types of transportation businesses have different requirements when it comes to TMS solutions. For-hire carriers (truckload, LTL, dedicated, intermodal and mixed), private carriers, freight brokers, 3PLs and other transportation services providers have a range of customer partnerships and internal management needs.

### TMS Uses



#### For-Hire Fleets

can use an effective TMS to improve efficiency, utilization and operating ratios. On a more fundamental level, commercial carriers rely on TMS solutions to dispatch loads, bill customers and pay drivers.



#### Private Fleets

can apply many of the same best practices to enhance operational efficiency; manage drivers for scheduling, compliance and safety; and to reduce costs.



#### Shippers

use the TMS to benefit from connections and collaboration through cohesive supply chains to improve efficiencies, realize cost savings and increase profits.



#### Brokers and 3PLs

leverage TMS capabilities for planning, order management and execution, and to automate administrative functions.

## For asset-based carriers, there are three primary reasons for selecting a TMS

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### Continuity of Resources

Carriers need to know where assets are located at all times and account for all movement and the fixed and variable costs associated with that activity. Constant visibility into equipment has an impact on revenue, deadhead mileage, load and route planning, and the ability to maximize opportunities in the most profitable lanes.

2

### Customer Billing

Customer billing is driven by a TMS that can rate orders and accurately track all expense items, including tolls, fuel surcharges, lumper and other fees, such as those for detention time. The ability to enter contract terms allows the use of a TMS to accurately bill shippers. Accurate rating and billing is critical for cash flow and for receiving on time payments.

3

### Paying Drivers

Paying drivers by accounting for mileage or hours and associated tasks, such as payments for loading and unloading services, is an essential TMS capability. Accurate accounting for driver pay is a key factor in driver satisfaction and retention.

There are also common needs among these types of operations. With shippers increasingly requiring greater transparency and connectivity, there is a growing demand on all types of operations to provide timely information throughout the supply chain. Visibility into freight status is especially crucial in the rapidly expanding e-commerce and final mile delivery markets as well as in refrigerated segments where provisions of the Food Safety Modernization Act are putting added emphasis on having up-to-date load information.

The right TMS for your operation will also address a range of internal requirements. From the onset, it is important to define the information management needs of internal stakeholders in a variety of disciplines. These include Operations/Dispatch, Finance, HR, Safety, Maintenance and IT.

Some types of carriers require customized or specialized capabilities. For example, rating loads using ZIP-to-ZIP origin-destination points (sometimes referred to as loaded miles) is common in long haul operations. Regional or short-haul fleets and Final Mile operations need to know accurate locations by address because multiple pickups and/or deliveries may occur within a single ZIP code.

Multi-mode operations have other considerations because they combine a range of services that require different types of data. Those can include asset- and non-asset-based divisions under the same operating umbrella, as well as carriers that offer a range of integrated freight hauling services, such as intermodal operations that have to account for rail and ramp schedules, or the need to track chassis. In cases with a combination of multiple business operating models, the ability of a TMS to have the broad capability to handle all parts of a diversified operation becomes especially important.

## The Network Effect

Freight transportation is inherently collaborative. Transporting goods requires a cohesive supply chain and ecosystem of partners. Hauling products and materials efficiently and productively, however, also requires connected stakeholders who use shared communication and collaboration practices and technologies.

Today, the traditional freight transportation community of carriers, brokers and logistics services providers is expanding. It is increasingly including shippers as well. The more participants in a connected supply chain, whether it's shippers, carriers, freight brokers or 3PLs, the more all members of the network benefit. The value they derive comes from being able to more efficiently match demand with supply, and from enabling the execution of transactions in a more streamlined and automated manner.

But until recently, shippers were not generally connected to carrier and broker network systems, increasing the complexity of managing operations between the nation's supply chain stakeholders. This fragmented, siloed approach hampered the fully transparent communication and collaboration needed to provide high-quality service dynamically across a supply chain and to operate more efficiently and productively.

The driving force behind a networked freight transportation community is enterprise level software. With a common transportation management system (TMS), carriers, brokers, 3PLs and shippers are able to collectively plan, implement and execute a range of functions. Processes such as order entry, load tendering, dispatching, routing and scheduling, and a number of financial activities from auditing to payment processing, are all core functions of a TMS.

The benefits of a TMS are well documented. Savings and a return on investment are derived from lower labor costs, load consolidation capabilities, asset utilization improvement, routing and scheduling efficiency, reduced operating and maintenance costs, and minimized accessorial fees. Longer term, an additional benefit is access to intelligence and analytics that can lead to more informed operational and business practices.

Much like when they were first introduced a number of decades ago to the carrier market by pioneering companies, transportation management systems are still transforming a mature and continually evolving industry. By enabling interconnections throughout transportation communities of shippers, carriers and brokers, providers who are on the cutting-edge and able to accommodate marketplace demands are transitioning. These providers are moving from being purely inside applications to becoming the platform for powerful, network-based management processes.



The network effect is clear-- A TMS that connects carriers, brokers AND shippers together on one platform provides for improved efficiencies, cost savings and increased profits.

In the new decade, transportation and logistics companies who will thrive are identifying and working with providers with universally accessible platforms available to shippers, carriers and brokers. New levels of visibility and efficiency are possible for all stakeholders and the complete supply chain connectivity drives efficiency, productivity and savings.

Through a single TMS, carriers, brokers and their shipper customers have a foundation for active cooperation, and a centralized, accessible repository of information. With it, they can proactively plan, make real time adjustments to keep the supply chain moving smoothly, and exchange information that streamlines business processes.

A connected cloud-based TMS improves freight operations by applying sophisticated rules and capabilities to a much broader base of for-hire carriers, private fleets, brokers and sources of capacity, including small and mid-sized shippers who were previously excluded. A larger network provides everyone with a better understanding of market and service needs and capabilities, and with data based collaboration and a higher level of transparency the result is new opportunities for all supply chain participants.

Identifying and executing collaborative shipping opportunities is challenging, and impossible if each party is operating on a different TMS. Having a common platform facilitates the process and leads to more opportunities for shipper, carrier and broker partnerships. The ability to discover and establish new

business connections is a key value proposition of these network-based enterprise solutions.

Concurrently, over the years advancements in TMS technology have made it consistently easier for shippers, carriers, and brokers of all sizes to more easily integrate their transportation management activities. Those developments have included software-as-a-service (SaaS), platform-as-a-service (PaaS), application programming interfaces (APIs), and applications designed for use on mobile devices.

With a TMS serving as a unified operating system throughout a transportation network, there are added benefits as well. In particular, having shippers, carriers, brokers, private fleets, and others connected, communicating and collaborating on a common platform, it is more affordable for companies of all sizes to deploy a TMS. Coupled with subscription-

based pricing models, there are lower costs that result from reductions in labor-intensive and time-consuming aspects of a TMS implementation, including connecting shippers, carriers, suppliers, brokers and other partners.

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# TMS Solutions for Non-Asset Based Operations

Brokers and 3PLs can use a Transportation Management Systems to effectively manage loads by location, a key factor in providing customer service. For transportation brokers and 3PLs, successful customer relationships are driven by communication with shippers and carriers about matching loads with freight capacity, equipment and lanes, and by making sure shipment details are accurate.

TMS software solutions enable more effective information sharing and help avoid delays and costly misunderstandings. Without that ability to foster successful communication and collaboration between brokers and 3PLs and their shipper customers and carrier partners there are financial and other consequences. TMS solutions provide for

best practices that foster better information sharing between brokers and 3PLs and their customers and carriers. They enable the development and implementation of effective business processes by capturing data about carriers and shippers, and applying that data where it's needed. Using software to make good decisions, based on accurate information and a set of standard business rules, can help avoid problems that arise from miscommunication.

For example, a shipper consigns a load and the system puts all necessary information at your disposal, eliminating the need for checklists and complex conversations that also create opportunities for human error. This scenario is in place regardless

of the type of freight and whether it requires a dry van, a refrigerated trailer, a tanker or a flatbed. With a TMS, the database contains information on what shippers require and what each carrier can provide so you'll streamline operations by offering loads only to carriers that can handle them, along with accurate shipment details.

When you use a TMS to automate routine brokerage and 3PL transactions, your employees have more time to solve problems and manage exceptions. For example, if the system alerts the broker that a shipment will arrive 30 minutes late, they can advise the customer allowing the customer time to react and plan accordingly.

Additionally, a main consideration for these operations when choosing a TMS is carrier qualification, including monitoring service performance and CSA scores. Brokers and 3PLs can rely on a TMS to streamline carrier onboarding and compliance, including insurance verification, which can be time consuming and expensive tasks.

## For Example:

- Incorrect information on pickups and deliveries means drivers could lose time looking for the right door on a loading dock or lose time on the road.
- Detention at shippers and consignees creates inefficiencies. Shippers who hire workers to unload trucks that are delayed can incur costs for unproductive time.

“  
**If a customer wants visibility,  
we need to be able to  
provide it.**”

— Anna Hummel  
Director of Brokerage Sales  
A. Duie Pyle's Customized Solutions Group

## A Case in Point

The Brokerage Solutions business of integrated transportation services provider A. Duie Pyle is using TMW.Suite software, hosted in the cloud, to increase efficiency for all of its customers. The company has achieved a 40% improvement in customer response time, largely by eliminating the need to access information from multiple sources and the corresponding need to check that data for accuracy. Now, rather than chasing information, the company's Brokerage Solutions team has a single, central repository that promotes timeliness and accuracy.

“Above all, the technology we now use is specific to what we do – it's not something that has been adapted from another part of our company,” explained Anna Hummel, Director of brokerage for A. Duie Pyle's Customized Solutions Group. “The reporting we get back provides us with actionable intelligence, and we no longer spend extra time vetting information before communicating with our customers or carriers.

“That's one of the ways a broker continues to be a good resource for shippers; they focus on their core competencies and they let us figure out how to communicate with drivers and make sure we have the truck at the dock at the right time.”

### Improving Visibility

Increasingly, shippers are requiring carriers, brokers and 3PLs to provide a proactive approach to freight visibility. TMS solutions provide the predictive capability needed to address issues with loads and enable a faster response to issues and challenges that threaten to disrupt supply chains.

With many manufacturers, wholesalers and retailers requiring visibility into freight location and status, those capabilities are a core service offering for carriers, brokers and 3PLs. Using integrated tracking solutions to provide shipment status updates automatically, including sending tracking information directly to shippers through integration with their enterprise and transportation management systems, is a key part of any advanced TMS.



## Comparing Options

With companies looking to automate processes and reduce costs throughout the supply chain, the idea of a standardized transport management solution has become all the more attractive, according to Generix Group, a software editor of collaborative applications. Therefore, "it is important to understand what type of criteria a business should evaluate when looking into a future TMS, and also know how to compare the different options to see which one will work for their company in both the short and long term."

One consideration, according to Generix, is that most companies adopting a TMS are "used to a specific company transportation management setup. Transportation services have very specific work patterns in place and it is necessary to take these into account."

### Consider:

Advanced Fleet Management Consulting, which provides strategic consulting services to operations that manage vehicle fleets, offers a list of items for consideration when determining specific TMS needs:

#### Are you able to access it anywhere?

It is increasingly important that a TMS solution can be enabled on tablets and smartphones, and be available via the cloud for easy remote access.

#### Can you get more precise reporting?

A best-of-breed TMS solution can gather great amounts of previously unattainable information and provide customized reports for the user's specific needs and challenges.

#### Is it compatible with your existing IT infrastructure?

A new TMS must be compatible with the legacy management, database and reporting tools you already use.

#### How is the quality of its technical support?

Choose a provider with a timely and responsive level of support and implementation process.

#### Is it flexible and scalable?

Choose a TMS than can scale up to fluctuating needs during periods of high demand/growth without requiring a large capital investment in additional IT capacity.

Rating, Order Entry,  
Dispatch and Routing



Document and  
Workflow Management



Connection to Asset  
Maintenance



Administrative and  
Financial

## Functional Considerations

In one sense, all TMS solutions have the same basic planning and execution capabilities, with only small degrees of variation. “Another important point to look into is the range of abilities of the system’s functionality, and all of the different ways that it can help your company,” says Generix Group. “One usually starts out by looking at just a section of the functionality, usually the area that immediately seems to be the most interesting in terms of returns for the company (better control of the invoicing process, optimization of routing, and dispatch, etc.)”

### Common TMS functions need to be in place for that to happen. These include:

#### 1 Rating, Order Entry, Dispatch, and Routing

Quickly capture load entry, calculate miles, analyze pricing and margins as well as customer and load-specific information to rate, route and dispatch loads for improved distribution efficiency and customer service – while reducing planning time, overhead and empty mileage.

#### 2 Document and Workflow Management

Electronic document management solutions turn trip paperwork, invoices, forms and archived documents

into files that are easy to access at any time and lead to better customer service, reduced labor, elimination of paper costs and related waste, plus increased cash flow.

#### 3 Connection to Asset Maintenance

Managing the fleet maintenance process as you would a separate business commonly leads to greater cost control and improved asset utilization. Whether work is performed in your own shops or someone else’s, a connected TMS maintenance management solution covers preventive maintenance, breakdowns, parts purchasing and inventory, warranty claims, fuel and tire usage, technician scheduling and external service provider integration, and offers reporting capabilities that lead to better decisions.

#### 4 Administrative and Financial

Accurate, efficient and cost-effective administrative operations are the backbone of any successful transportation business. A TMS should integrate complex functions into a single, highly streamlined ecosystem that enables control over financial processing and eliminates manual data entry and the potential errors associated with re-keying information.

## Capabilities

### A deeper dive into TMS functions should reveal these capabilities:

**Accounting** - Integrations with corporate ERP or integrated accounting systems, finance and order management systems reduce paperwork, speed up cash flow and lower days sales outstanding. Activity-based costing drives accurate historical analysis, pricing simulations and yield calculation.

**Asset Management** - Track driver and equipment qualifications, location, ETA and load requirements for more efficient dispatching, routing and scheduling and improved network balance optimization. Improving vehicle utilization, meeting time windows, and reducing delivery time and miles are critical for addressing customer expectations, especially in more complex multi-stop, multi-order operations.

**Business Intelligence** - A powerful set of decision-making tools generates actionable intelligence across all business operations and helps adapt strategies, systems and services to a changing market. BI also benchmarks performance against competitors, and empowers businesses to leverage data, reduce costs and improve profitability.

**Carrier Onboarding and Monitoring** - Easily managing a carrier base and simplified on-boarding for non-asset-based enterprises in a TMS reduces total transportation costs while keeping service levels high.

**Document Management** - Flow critical documents from within the cab and into the enterprise to enhance the ability to execute orders, dispatch and billing quickly and accurately, improving cash flow, bid processing and to realize revenue generating opportunities.

**Driver Recruiting** - Customizable online applications, digital driver signature capture, recruiter workflow and notifications, automated mail merging, automated driver record creation and recruiting analytics.

**EDI** - Simplifying conversion of shipper RFPs eliminates the need for multiple spreadsheets, emails, and other time-intensive manual processes. EDI technology also enables real-time tracking of load status to eliminate workflow constraints and improve timeliness.

**Fuel Card** - Integrating fuel purchase data in a TMS reduces extra work for staff, limits theft and enables the ability to monitor and audit fuel provider discounts.

**Fuel Tax** - Accurate mileage for fuel tax reporting is essential for streamlined IFTA filing. Data on fueling

plans and routes allows an instant view into whether drivers are complying with plans.

**Logistics & Freight Board Interface** - Non-asset-based transportation service providers can use a TMS to integrate with multiple load boards, improve mode optimization, and model alternate transportation scenarios to win new business and automate exception handling for speedier, smoother operations.

**Mapping & Mileage** - Reduce empty and out of route miles by providing accurate and up to date navigation that leads to on-time efficiency at the lowest possible cost. Improve asset utilization and driver productivity with the most efficient routes.

**Mobile Communications** - Integrated mobile communications, mileage and fuel purchase data provide for systematic cost reduction.

1 hr 12 min

1 hr 15 min

Odenton

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Beltsville



## Platform Choices

Web-based, hosted and on-premise TMS solutions all offer benefits and advantages. The Infosys global supply chain management blog, which discusses the latest trends and solutions across the supply chain management landscape, says that on-demand solutions can be one important TMS differentiator. Hosted solutions offer additional security and availability through managed services such as geographically diverse backups, commercial level facilities, system monitoring and other crucial tasks.

Integration capabilities are essential in any TMS. Internally, a solution with the ability to integrate with other business applications can save time and money. Another critical capability is to enable the use of API (Application Programming Interface) tools and programming instructions and standards for integrating third-party software applications.



Web-Based



Hosted



On-Premise

## Implementing Solutions

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SAV Transportation Group, a provider of fleet solutions as well as third-party logistics services, says successfully selecting and implementing a new TMS, whether fully outsourced, hosted, or internally installed, follows a proven progression:

**Know what you need before you look for what you want.**

Identify current resources and capabilities and then look for TMS providers whose capabilities complement existing strengths and long-term strategies.

**Define project scope and expectations.**

Establish and follow a roadmap for steering new TMS deployments, detailing requirements in advance and confirming that service providers agree with expectations and how services will be measured.

**Engage change management and obtain buy-in.**

Appointing a cross-functional team of internal stakeholders helps establish objectives and steer new TMS implementations in the right direction.

**Implement a successful program.**

Guide successful rollouts by addressing information technology integration, process redesign, and newly defined performance measures, and by executing all the necessary steps for a successful transformation and comparing results to project goals.

**Ensure ongoing success.**

Evaluate ongoing TMS performance with prioritized metrics and encourage further participation from project owners, evaluators and implementers.



## For almost any size or type of operation, a TMS is a good investment.

### Total Solutions

TMS technology is continually evolving and addressing emerging trends, needs and functions for a variety of operating models. However, a TMS does not solve management issues. It can facilitate management practices but it will not fix poor business processes.

While choosing the right TMS depends on a wide range of factors, with so many options to choose from, companies increasingly fail to identify the

solution that aligns with their strategy and supports their transportation processes. Choosing the right type of TMS begins by defining the scope of your transportation needs.

All TMS solutions are not equal, notes The Transportation Management Group (TMG), which offers transportation management system consulting services. Each software provider has different features and approaches to transportation management systems and how they should operate. Some may be highly flexible and configurable yet lack the industry expertise to take full advantage of best practices. Others may be so rigid that there is no opportunity to conform to your unique business rules.

Driven by growing demand for connectivity and visibility for shippers, outside carriers and increased need for internal management processes and information, TMS adoption rates are rising. On a steady basis, carriers, brokers and 3PLs are turning to their ability to centralize information, streamline management, provide accurate and actionable data and enable analytics capabilities.

For almost any size or type of operation, a TMS is a good investment. But it is vitally important to make an informed decision and choose a supplier that offers a total solution for all your information management needs.

### You have a challenge.

- Is it to grow the top line by boosting freight volume and improving relationships with your customers?
- Is it to improve the bottom line by managing business needs and controlling costs?
- Choosing the right TMS solution is the critical first step to meeting the challenge head-on.

# Get to Know Trimble Transportation

As the leading provider of transportation management, business intelligence and fleet maintenance solutions – [Trimble Transportation](#) maintains a laser focus on supporting transportation businesses like yours in the never-ending journey to accelerate growth while maximizing efficiency and bottom-line performance.

Our solutions are developed and supported by industry experts who understand the daily challenges you face inside and out. With thousands of customers worldwide, our base represents carriers of all sizes and includes more than 70% of the top 100 for-hire carriers and 30% of the top 30 US brokerage companies.

We can help make your job easier through highly flexible, configurable software and solutions that will adapt to and grow with your business. Picture a living ecosystem that will bring you the end-to-end visibility and control you need to make the right decisions, right now.

## About Trimble

Trimble is transforming the way the world works by delivering products and services that connect the physical and digital worlds. Core technologies in positioning, modeling, connectivity and data analytics enable customers to improve productivity, quality, safety and sustainability. From purpose-built products to enterprise lifecycle solutions, Trimble software, hardware and services are transforming industries such as agriculture, construction, geospatial and transportation and logistics. For more information about Trimble (NASDAQ:TRMB), visit: [www.trimble.com](http://www.trimble.com).



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Ready to get started? Let's talk about the right fit of a transportation management system for your business. Explore our low cost of entry, hosted subscription TMS and curated bundles.

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