High Volume, Multi-Modal Shipping: What Executives Need to Know

SupplyChainDigest™

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Introduction

For the past several years, transportation performance has received increasing attention, as companies recognize that transportation is the glue that ties together each element of the supply chain, and better understand the role of transportation in reducing costs and improving customer service.

The focus on transportation has magnified recently, as a variety of issues have created challenges for transportation managers and their companies. These issues include a lack of carrier capacity, rising transportation costs, and congestion at the nation's ports.

Yet in many companies, a disconnect remains between the opportunities for transportation excellence and the focus of both supply chain and corporate executives. SupplyChainDigest typically finds that the issue is not that these companies do not believe transportation is important; rather, it is that these companies are operating on transportation models and paradigms that were established many years ago, and have as a result become "stale" as the surrounding environment (strategy, technology, best practice, etc.) changes dynamically.

The reality: for many companies the bottom line savings available from transportation improvements are equal to a substantial and far more difficult to attain increase in sales. A fresh look at these opportunities will galvanize many companies to put transportation process and technology improvements at or near the top of supply chain improvement initiatives.

High-volume, multi-modal shippers face unique challenges – especially because few technology solutions have been geared to this segment.

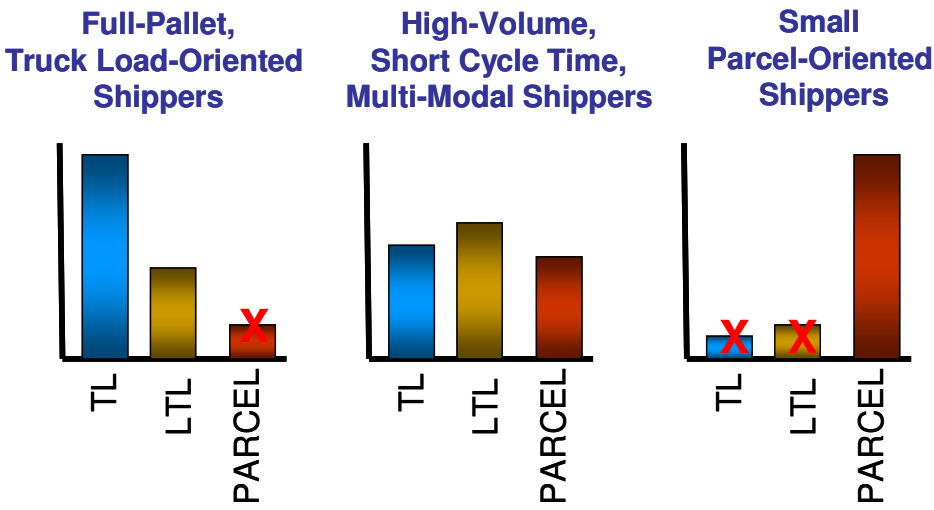
The universe, of course, is made of many different types and profiles of shippers. In general, we can break the shipper type into three categories:

- Heavy truckload and less-than-truck load (LTL) shippers, generally shipping on pallets, whether solid SKU or mixed SKU. Most food companies, many consumer packaged goods companies, and industrial companies (e.g. paper, chemicals) fall into this category.
- Small parcel oriented shippers who have all or nearly all of their volumes going by one or more of the major parcel carriers. Typical examples include consumer direct/e-commerce companies and service parts distribution.
- Mixed or multi-mode shippers, which have a strong blend of parcel, LTL and even truck load shipments.

This last category is especially interesting, as it can present unique challenges for transportation planning and execution. Companies in this category, which can include shippers from such industries as publishing, media, high tech, wholesale distribution, and some consumer goods sectors, often have their challenges complicated by high unit volumes and short order cycle time requirements.

More and more companies are finding their transportation is at or trending towards this multi-modal type. This is due to several trends:

- Smaller, more frequent shipments to traditional customers, leading, for example, to a switch from truckload to LTL shipments
- The growth of ecommerce, meaning more and more companies are shipping to both business customers and end consumers directly, rather than through traditional distribution channels
- The trend towards larger, higher throughput DCs



Which Category Of Shipper Are You In? An Increasing Number of Companies Are Moving Towards the Middle, Multi-Modal Category

Executive Insight: Keys to Improved Transportation Performance

SCDigest has conducted an analysis of the challenges and opportunities for these high-volume, multi-modal shippers, and believes that many have untapped opportunities to reduce transportation-related costs and improve transportation service and performance. Combined with the overall increase in the importance and role of transportation generally in most companies, we believe both supply chain/logistics executives and even company executives should consider these insights to improved performance and take action to become a performance leader.

An Increasingly Complex Transportation World Requires Increased Agility and Automation

The transportation environment is changing rapidly and clearly becoming more complex. Some companies are improving processes and technology in step with these environmental changes, while others seem stuck with models and tools little changed from a decade ago.

Just a few of the major recent environmental changes should illustrate the complexity transportation managers face today:

Many companies are dealing with transportation complexity and change by "muddling through, taking a band-aid approach and just getting by."

- Rapid overall supply chain change, with which the transportation function must quickly align
- Rapidly rising transportation costs
- Capacity constraints at ports and among carriers
- Increasingly challenging delivery requirements (e.g. shorter cycles, smaller delivery windows)
- Increasing complex customer routing requirements
- Opportunities/requirements for collaborative logistics with major customers
- "Just-in-time" type programs, which require delivery on-demand

Agility is required for success in the face of these and a constant series of other logistics changes. Yet, as transportation industry consultant Stephen Craig of CP Consulting recently noted, some companies approach this complexity and change by "muddling through, taking a band-aid approach and just getting by."

These companies cannot adapt and respond to these environmental changes and improvement opportunities effectively. The result is at minimum increased costs (labor and transportation) that impact the bottom line, often substantially.

But it's not only a cost issue. Companies that are not agile in their ability to plan and execute in this environment will often suffer decreased customer satisfaction and reduced competitive edge as others learn to respond to these changes faster and more effectively.

Ask your self these questions:

- Can you proactively measure the impact of change on bottom line transportation costs – before they affect your profitability?
- Can you measure the impact of change on your ability to cost effectively or operationally meet customer commitments? (Which customers, how and what is the proposed solution?)
- Do you have an infrastructure that allows you to easily accommodate and leverage new opportunities to your advantage or are you forced to perform work around processes?

- Can your company proactively position, demonstrate and prove an ability to adapt and respond to your customers needs to form closer collaborative partnerships?

Recommendation

Companies must create a transportation infrastructure that enables high levels of adaptability and responsiveness to market dynamics, at both a macro and micro level. "Macro" refers to operational changes due to such factors as new supply chain strategies, network reconfiguration, new customer requirements, etc. "Micro" agility refers to the ability at execution time to quickly and easily adjust to changing fulfillment requirements, and to be able to easily identify the transportation scenarios that lead to customer satisfaction while minimizing total costs.

Achieving agility involves certainly requires changes to process and organizations, but SCDigest believes that today robust transportation management technology is simply required for all but small, low-volume shippers. The range of choices, volume of transactions, and multiple transportation options these mid-sized and larger shippers face require automation for effective execution.

Manual processes in most cases simply cannot come close to delivering lowest cost performance. Customer service is generally also at risk, or if customer service is maintained, often at the price of excessive overhead.

Transportation planning and execution infrastructure should be uniform across fulfillment processes, and utilized by the entire organization

The reality is that to be a top performer, most shippers require transportation technology that can truly make optimal decisions as to how goods should move.

These decisions will be based on current customer requirements, the latest carrier rates and service offerings from multiple carriers, and a company's unique distribution strategies.

This planning and execution infrastructure should be uniform across fulfillment processes, and utilized by the entire organization. This will ensure both consistency and an ability to report and analyze the impact of changing trends and market conditions on margin and customer service. This is true whether the transportation function is highly centralized, highly decentralized, or like most companies somewhere in between. In most cases, information in the system should be available to a wide variety of other functions and stakeholders in the order fulfillment process, including sales, customer service, finance, distribution, etc.

With this in place, systems can easily accommodate and execute decisions based on the latest information, ensuring that all distribution takes place with an optimal balance of cost, customer service levels and operational considerations.

The bottom line: robust transportation management technology is simply essential in today's environment to manage costs and deal with the myriad of choices in a complex environment.

Customer-Paid Freight Can Mask Declines In True Operational Performance

There is a constant and recently increasing "battle" as to control of transportation decisions and cost between shippers and their customers. Increasingly, customers are calling the shots, taking control of inbound freight rather than having the shipper include transportation expense as part of the cost of goods. This is especially true for companies shipping to retail customers, but is happening in a variety of other markets as well.

As customers take control of inbound freight decisions and costs, it causes a corresponding decrease in the shipper's transportation spend. As a result, transportation expense will show a decline, in total, as a percent of dollars shipped, or other metrics.

The reality is that the company may not be paying less for freight, but just paying less freight – and there's a big difference.

It may seem obvious, but transportation expense reduction based on transferring who pay the bills from the shipper to the consignee does not indicate improved transportation performance. Yet, some executives, seeing year over year declines in internal transportation spend, may not look any deeper, and assume things are on the right track.

The reality is that the company may not be paying less for freight, but just paying less freight – and there's a big difference. In addition to potentially masking true operational performance, increasing levels of customer paid transportation inherently put upward pressure on the rest of the company's transportation budget, as there is less volume to leverage in carrier rate negotiations, and fewer opportunities for consolidation, continuous moves and other optimization techniques.

Recommendation

Supply chain and company executives should be intimate enough with the transportation budget and spending patterns to be able to clearly discern changes related to increases in customer paid freight versus overall trends and performance.

The metric "transportation costs as a percent of sales" should be calculated not only on total sales, but as a percent of sales for shipments for which the company paid for the transportation expense.

The bottom line: Declining or flat transportation spending is not necessary a good indicator of internal performance, and may mask opportunities to truly drive down internal costs.

Transportation Strategies Based On "Averages" Are Often Disconnected From Execution Realities

It seems inherent that many companies will use "averages" for creating policy around distribution and transportation. For example, many companies calculate "average shipment size" – perhaps 50 pounds.

Then, based on this "average" 50-pound shipment, the company will use some carrier and service level because, for the average sized shipment, it is cheapest. By extension, if say UPS is best at handling the average shipment size, the strategy should be to negotiate a deal with them for all small parcel distribution.

The challenge with averages goes one step further if there is a more variable shipment profile. In that case, averages may be used to ascertain appropriate weight breaks to hard code a mode or carrier decision. Again using an example, it may mean that "any shipment over 150 pounds goes LTL."

For a company shipping thousands of packages a day, even small percentage savings add up to significant dollars.

The problem with this way of thinking is that while shipments that fit the "average" profile are shipped correctly, the same cannot be guaranteed for those shipments that are not.

Sometimes companies will argue, as one transportation director told us, that even if non-average shipments end up being more expensive than optimal, that cost increase is made up in the savings achieved by shipping their average shipments cost effectively. This is probably an inaccurate statement generally, but is only true if the prime carrier rate can only be achieved by pushing all of the volume through that carrier – which is often not the case.

In general, multi-modal shippers are by far best off when the optimal execution of each and every shipment is determined based on the order size, configuration, origin, destination and available carriers and service levels to conduct the move. This does not mean having no flexibility; for example, a transportation management system should enable preferential treatment or configuration of preferences to ensure favored carriers are used over others when within a certain tolerance.

In fact a good TMS should set policy (based on rules and constraints) at a shipment level, not at an aggregate (average) level.

The benefit of using this approach can be seen in some pretty simple math. Consider the following scenario:

Shipments per day: 10,000

Optimally routed/shipped: 8000

Sub-optimally routed/shipped: 2000

Under this scenario, if the average shipment cost is $25.00, the sub-optimal cost increase is $2.50 per shipment, or $5000 per day (2000 times $2.50).

With 200 days operating days per year, that $5000 per days ***adds up to $1,000,000 in the course of a year.***

While this example is using a high-volume shipper, the fact remains that in many, many companies, actual cost is not considered at the time of execution. Mode and service level decisions were made up stream based on hard-coded rules that were derived from a corporate policy, which in turn was derived from a simplified view of shipping (averages).

Recommendation

Don't take the easy "shortcut" of using averages to make hard-coded transportation decisions. Experience from many companies shows there are significant savings from using technology that enables shippers to optimally rate and route each shipment according to the complex dynamics of its attributes and delivery destination and requirements.

The bottom line: Use of averages in logistics and distribution is always fraught with land mines. Any "average" (e.g. orders per day, number of lines per order, etc.), doesn't really help you plan for staffing or layout for a specific day. Rather, you must look at a profile of those metric across days. Transportation is no different. While averages can be useful to get a rough idea of volumes and requirements, in the end each shipment is a unique entity, which should be optimally routed.

Better Internal and Customer Routing Guide Management Can Be a Major Source of Cost and Efficiency Improvements

At one level, the use "routing guides" to determine transportation mode and carrier depending on a shipment's key attributes has increased significantly over the past five years. This is true both for customer-provided routing guides, and for internal routing guides that determine transportation methods for shipper-controlled freight.

> ***Routing guides should be an integral part of an automated shipping system, and be available to everyone involved in order fulfillment.***

That said, SCDigest research has led to the following observations:

- Many companies still do not have formal internal routing guides based on transportation strategies, core carrier programs, and volume commitments.

- A high percentage of companies with routing guides have poor internal compliance.
- Customer routing guides are often complex; high costs for administration and penalties for non-compliance are common.

Internal routing guides are a good thing, and customer routing guides a fact of life. But to gain maximum advantage and minimize costs, shippers must ensure internal compliance and measure total costs of customer compliance.

For internal routing guides, this means they must be more than simply a printed document. The routing guides should instead be an integral part of an automated shipping system, and be available to everyone involved in order fulfillment.

Recommendations

If you do not have an internal routing guide, one should be developed. The routing guide should define the methods and means acceptable executing the shipment based on such factors as specific customers, weight and cube, origin and destination points, carrier contracts and commitments, etc. The assumption is that routing rules are based on corporate decisions that balance cost with service levels for each shipment. While the transportation function should take the lead in developing the routing guide, input from sales, customer service, distribution and other functions is critical for developing a guide that balances requirements.

Recognize that that the routing guide can govern transportation decisions at different levels of detail. For example, for a given shipment from point A to destination B, the guide may determine the carrier to be "LTL," with the actual carrier decision to be made at execution time. Or the guide may actual state "Yellow" for that type of shipment, based on contracts or customer requirements.

But as many companies have found, simply producing the routing guide is not sufficient to gain benefits. There must be clear direction from the top that the routing guide represents company strategy and is to be followed; otherwise, it is often treated as "something from corporate" that is quickly ignored.

Simply producing the routing guide is not sufficient to gain benefits. There must be clear direction from the top that the routing guide represents company strategy and is to be followed.

Routing guide compliance will be hugely impacted if the rules are incorporated in a computer system that determines the routing automatically, rather than found only in a paper document that must be referenced for each shipment. Automated routing guides indicate a level of commitment to staff actually making the final transportation decisions, and improve compliance by making it much easier for transportation staff to determine the appropriate routing.

Just as importantly, by automating the routing guide, it becomes possible to accurately monitor compliance with the guide against actual shipments, and the cost of non-compliance. Existing patterns are difficult to change, and transportation practices often especially difficult to alter because of long-standing personal relationships between shippers and carriers. By measuring actual compliance, and the financial cost when the routing guide is not followed, companies will gain compliance at a much higher rate.

Automation is also a virtual requirement to manage complex carrier commitments, such as breaking down volume in a lane across several carriers.

While it is possible for internal IT to build routing guides, the evidence is that such efforts are costly, and difficult to maintain, as they tend to be built for a position in time and without flexibility in mind. TMS and some WMS software providers provide automated routing guides, but the capabilities, flexibility and scalability (e.g. ability to handle high volumes, and enterprise versus local ship site deployment) tend to vary dramatically. That is why the routing rules tend to be hard coded in many of those solutions.

Improved transportation technology can often be justified on the basis of chargeback reduction alone

Shippers should also measure the cost of compliance with customer routing guides. These costs can include the administrative time to determine the proper routing for each customer shipment, and any penalties or chargebacks that are assesses for failure to comply.

Department store retailer JCPenney, for example, has a significant staff that focused specifically on monitoring vendor shipments and assigning chargebacks for those that did not comply with its routing instructions.

While such customer chargebacks are often simply accepted as a "cost of doing business," the reality is that improved transportation technology can often be justified on the basis of chargeback reduction alone. An automated routing guide should be able to manage both internal and customer compliance.

Routing guides predetermine the result – for example, if less than 100 pounds use UPS, if greater than 100 pounds, use Yellow, etc. This is fine for customer routing rules where the shipper does not pay the freight (assuming the rule is this simple). If it is a rule for the shipper, this result assumes that there are no other available options that could possibly be better.

The reality is that a small percentage of shippers use transportation data effectively.

The reality is that in order to reduce costs while maintain customer service levels, companies must be able to intelligently access all their options on a shipment by shipment basis to determine how something should move. This requires a system that can take factors such as the shipment size, configuration (dimensions, number of pieces, biggest piece, average piece weight), origin, destination and required delivery date and dynamically determine what all the available options are, which ones apply and then which ones meet the specific delivery criteria. The benefit of doing this can be very high, while the cost to incorporate is quite low.

The bottom line: While often viewed as a low level detail, consistent compliance to internal and external routing guides can save companies hundreds of thousands or even millions of dollars in transportation spend, labor, and penalties. It's worth the time to assess your current situation and savings potential.

Logistics Performance Can Be Much Improved By Better Leveraging Transportation Data

The effective use of transportation-related data can drive substantial improvements in operational performance.

Unfortunately, the reality is that a small percentage of shippers use transportation data effectively. In some cases, this is the result of manual systems that simply cannot capture the data effectively. In other cases, the data has been captured in some form but is not easily accessible for use in analysis and negotiations.

In either scenario, shippers are missing significant opportunities for leverage, savings, and operational improvement.

High performance shippers share a common characteristic of capturing and using transportation data. With this intelligence, they can understand transportation costs and cost drivers, analyze carrier performance and customer service, negotiate with carriers and often customers, and drive goal achievement and continuous improvement through Key Performance Indicators.

Many shippers will also benefit from on-line tools that allow users to flexibly view metrics across multiple dimensions.

Recommendation

SCDigest believes it is critical for all but small shippers to build a robust reporting and analysis framework for transportation data. While this can sometimes be done as part of corporate data warehouse initiatives and tools, transportation is often well down the list for inclusion in these capabilities, and/or only the highest level metrics and data (e.g., on-time customer delivery) are maintained. This means the more granular detail transportation managers need for analysis and negotiations is not available.

While in-house developed, transportation-specific databases and analytic tools are sometimes built, the significant advances we've seen in the past two years in the "data marts" and analytic capabilities of TMS vendors makes this alternative increasingly attractive.

These tools should be capable of providing a variety of "out of the box" analytics and reports, and allow flexible creation of other reports beyond those pre-packaged with the tool. They should allow shippers to set KPIs and report on performance against those targets, and to be automatically alerted when performance is approach and/or has reached threshold targets (e.g. on-time percent for a given customer has fallen to 90%). Many shippers will also benefit from on-line tools that allow users to flexibly view metrics across multiple dimensions (e.g. customer, carrier, lane, ship point, commodity class, etc.)

The bottom line: For many years, shippers knew they had valuable data, but the technology to really use the data effectively did not exist or was too expensive. Today transportation analytics should be part of any large shipper's tool set.

A Majority of High Volume Parcel Shippers Miss Substantial Savings Opportunities

Our definition of multi-modal shippers included those companies with a reasonably high level of small parcel shipments in their modal mix.

SCDigest believes that a significant percentage of those shippers, especially those that also have high volumes in other modes, miss substantial opportunities to reduce parcel shipping costs.

High volume parcel shippers have opportunities both in improved "rate shopping" and in the area of "parcel planning."

The two primary opportunities are as follows:

- More extensive use of "rate shopping" to select the lowest cost carrier for each individual shipment
- Development of "parcel planning strategies" to look for opportunities to convert traditional parcel shipment to a lower cost mode. This can include use of "zone skipping" strategies that involve first shipping small parcel shipments via TL or LTL to a local parcel delivery zone, or looking at how discrete partial shipments might be combined into lower cost LTL shipments.

While many companies have benefited enormously from rate shopping among parcel carriers, a substantial number of parcel shippers fail to take advantage of these opportunities, often due a desire for "simplicity."

Far fewer companies take advantage of "parcel planning" opportunities – in part because this may require more strategic and operational change, and strong technology support. For example, looking across a couple of day's worth of orders for parcel shipments to the same customers that could be combined into an LTL.

The fact is that while corporate attention is often given to strategies to reduce TL and LTL costs, tactics to reduce parcel costs often only involve trying to negotiate harder with one of the major parcel carriers regarding discounts.

Recommendations

While simplicity has benefits, those benefits must be weighted in terms of the potential savings from more aggressive small parcel strategies. Clearly, the higher the volume of parcel shipments, the more savings may be available from rate shopping, parcel planning and other improvement strategies. But even those with medium parcel volumes can often find meaningful savings opportunities and justify any corresponding technology investment required to achieve them, especially if achieving parcel savings is one element of a broader transportation improvement program.

Companies are often unaware of the potential savings that can come in parcel shipping costs from these approaches.

The bottom line: Heavy parcel shippers should not simply accept the status quo. Investigate the level of savings that may be available from more aggressive planning and execution strategies.

Opportunities to Reduce Overall Transportation Costs Can Be Easily Quantified

With the significant recent increases in transportation costs, and expected continued increases well into the future, it is essential that shippers take a look at alternatives to reduce these costs through strategy and technology.

The good news is that the opportunities for savings in transportation are relatively easy to quantify, and are achieved in practice upon implementation of the strategy and technology more consistently than many other areas of technology investment.

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So when was the last time you had a transportation check up? It has never been more important.

A wide variety of consultant and transportation technology vendors offer formal transportation assessment programs. While there are certainly range of capabilities, expertise and costs involved, SCDigest's reseach indicates that overall, there are many quality, low cost assessments that can give you a valuable idea of what types of savings potential exists.

Some companies are reluctant to use the assessments of technology vendors, as they are viewed as overly biased. SCDigest believes this is a mistake. While technology vendors are clearly motivated to sell software, we find a number can and do provide assessments that add real insight, and often at a much lower cost that outside consultants.

The key is to first understand that the assessment will be made generally within the context of eventually recommending software. After engagement, then work closely with the vendor's consultant's to challenge assumptions, clearly understand the logic behind and source of potential savings opportunities that are identified, and iterate back and forth on producing the final report. Insist vendor savings estimates be backed by examples of how similar companies have actually achieved these savings.

In this fashion, shippers can often gain substantial insight at a very moderate cost.

Recommendation

If you have not had an assessment performed in the past two or more years, now is the time, given the dynamics of the transportation marketplace and in most companies supply chains.

We often recommend a two-part approach:

1. A quick or "light" assessment of transportation strategies from a consulting firm with deep transportation expertise. They will often enable you to get a good handle on the strength of your operations and major savings areas in a short amount of time.
2. If you are lacking in transportation technology, either generally or in a specific area, allow a TMS vendor to also do an assessment.

SCDigest believes that a huge preponderance of shippers have opportunities to drive major savings through transportation process and technology improvements – savings which go straight to the bottom line.

The costs for this will be very modest, and may identify substantial opportunities for savings. Even if you suspect the opportunities yourself, it is good to have them validated by an outside perspective, and reports can often serve as a catalyst to drive change and investment from above.

The bottom line: Getting a transportation assessment is one of those things that falls into the "important" but not "urgent" category for most companies, but it can be the catalyst for major operational and cost improvements

Summing It Up

The good news for transportation and supply chain professionals is that recent environmental changes have led to an increased focus on transportation.

The bad news is this to some extent has been driven primarily by concerns about capacity and customer service, leading many companies to focus solely there.

SCDigest believes that a huge preponderance of shippers have the opportunities to drive major savings through transportation process and technology improvements – savings which go straight to the bottom line.

This is especially true for high volume, multi-modal shippers – in part because few TMS solution providers have been focused on this segment of the market.

Companies should view transportation not as an isolated function, but rather as a key part of the entire order fulfillment process. This process starts with the sale of the product to the customer and does not finish until all relevant carrier and product invoices

have been paid. While this is easy to say, the reality is many companies do not view their fulfillment processes in this way, leading to sub-optimal results.

It is relatively easy (and inexpensive) to get a handle on how transportation processes, technology and decisions can be improved – and the resulting bottom line impact. Most TMS providers and many consultants offer such assessments, which generally provide good insight into the potential for efficiencies and hard dollar savings. While you will have to do more detailed analysis from there, it's a great way to get a feeling for your opportunities for transportation and order fulfillment excellence.

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