



# Freight's New Frontier: Leveraging Dimensions to Effectively Navigate Classification Changes

A Shipper's Guide to a  
Rapidly Changing Freight Landscape



The National Motor Freight Traffic Association (NMFTA) has introduced some of the most significant changes to Less-Than-Truckload (LTL) freight classification in decades. These updates aim to modernize how palletized and LTL shipments are categorized to keep up with evolving products, technology, and shipping processes.

Freight classifications have existed for nearly a century, but the new adjustments are designed to:

- Enhance and simplify the user experience for freight classification
- Increase first-attempt classification accuracy
- Reduce friction between shippers, carriers, and 3PLs

So, what exactly is changing—and how can shippers and 3PLs stay ahead of the curve? This guide breaks it down and provides actionable steps to prepare.

## Key Changes for LTL Freight Shippers

According to NMFTA, the main impacts for LTL shippers include:

- Easier identification of items and freight classes
- Lower density classes for heavier freight
- More consistency in freight class for items with similar characteristics
- Revisions to NMFC items, sub-items, and freight classes



The NMFC determines freight class based on four criteria:

1	<b>Density:</b> Measured by dividing total weight by cubic feet (lbs/cu ft)
2	<b>Handling:</b> Refers to how easily freight can be managed—bulkier, fragile, or hazardous items typically fall into higher classes
3	<b>Stowability:</b> Considers how easily freight fits in standard transport space (e.g., nuts and bolts = high stowability; a large sofa = low)
4	<b>Liability:</b> Accounts for potential damage or risk (e.g., corrosive materials or perishables)

The biggest shift? Shippers must now provide complete and accurate NMFC information with detailed weight and dimension data. These details are essential to calculate freight density—now a key input in freight classification.

While handling, stowability, and liability are easier to classify and less likely to cause disputes or reclassification with carriers, density has become a central, high-risk factor for reclassification and surcharges.

### Why Weights and Dimensions Now Matter More Than Ever

Including weights and dimensions in LTL shipments is no longer optional. These are now critical inputs for calculating density—and by extension, determining freight class.

Failure to provide accurate dimensions will likely lead to:

- More frequent reclassification by carriers
- Dimensional and/or Weight surcharges
- Billing disputes



Shippers who are still relying solely on freight type for classification will soon find themselves facing significant and unexpected costs and delays.

### How to Accurately Capture Density

Density is determined by dividing total weight by the volume (L x W x H) of the shipment. Weights have traditionally been easier to capture using either a combination of item-level, box, pallet and packing materials weights that can be then calculated by many modern WMS or TMS systems (essentially summing all components that go onto the pallet), or pallet weigh scales.



Dimensions have historically been more difficult, often captured using one of two methods:

Manual tape measurements which are difficult to accurately capture and usually require two people to measure.

Fixed installations using multiple cameras to capture pallet dimensions. Products from companies like Cubiscan and FreightSnap fall into this category. These require pallets to be moved and staged in a designated area.

However a new class of mobile dimensioners can also now capture pallet dimensions. These are handheld, portable solutions from providers like QBOLD and MobileDemand. These move with warehouse staff, allowing fast, flexible capture of dimensions anywhere on the floor.

Most dimensioners (mounted or mobile) also take photos of shipments, offering added protection in the event of a reclassification or insurance dispute—yet another reason that tape measures won't cut it any longer.





## The Warehouse of the Future Is Here

Over the past few years, warehouse automation has evolved rapidly. We now have robotics, WMS platforms, warehouse drones, and fully autonomous vehicles. These technologies are designed to eliminate manual steps, reduce errors, and streamline fulfillment.

But there's one big problem: Many warehouses don't capture pallet dimensions or still rely on manual dimension capture when it comes to LTL freight.

## Data Without Action Is Just Noise

Capturing dimensions is only the beginning. The real value comes from integrating that data into the systems that drive logistics decisions. Mobile dimensioners tend to use modern web compatible operating systems, such as Android that make IT integration a familiar and easy task. By combining data from mobile dimensioners with other intelligent WMS and TMS solutions, shippers can:

- Automatically assign NMFC classifications
- Instantly calculate shipping rates
- Prevent carrier disputes before they happen
- Optimize packaging and routing based on dimensional data



## Conclusion: Take Action Now

The freight classification landscape is changing, and staying ahead means adapting quickly. By investing in modern dimensioning tools and integrating them into operational workflows, shippers can:

- Avoid costly reclassifications and surcharges
- Improve carrier relationships
- Reduce billing disputes
- Create a more predictable and efficient shipping process

Now is the time to prepare your operation.

## Additional Resources

- [NMFC Codes & Freight Classification](#)
- [A Guide to the NMFC Changes](#)
- [NMFC Changes Overview](#)

## About NMFTA

The National Motor Freight Traffic Association, Inc. (NMFTA)™ is a nonprofit membership organization headquartered in Alexandria, Virginia. It is the world's leading organization representing the interests of less-than-truckload (LTL) carriers. The association's membership is composed of motor carriers operating in interstate, intrastate, and foreign commerce.

NMFTA provides critical services to the industry in the form of classification standards, identification codes, digital operation standards, and support for cybersecurity within the industry.

<https://nmfta.org/>

## About QBOLD

QBOLD is the first, truly mobile, handheld dimensioning solution for warehouse and supply chain operations. The flexible solution can be used to capture dimensions of items, including cube and irregular shapes, parcels and pallets, and integrate with common scales to capture weight. QBOLD customers save thousands of labor hours replacing manual dimension capture techniques or replace legacy, inflexible and costly static dimensioners.

<https://qboid.ai/>



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