

# Will the Cold Chain Be Unbroken? Solving for Final-Mile Refrigeration

by Melissa Kieling October 19, 2021

The final mile of the supply chain is expensive. In fact, according to [Insider.com](#), **last-mile delivery costs make up 53% of the total cost of shipping**. And that may not even take into consideration the increased cost when the last mile needs to be refrigerated, such as for grocery, meal-kit and other food-related delivery companies.

Retailers' inability to keep perishables at food-safe temperatures from the minute they're pulled from a temperature-controlled environment to when they're collected by or delivered to customers results in a very inefficient and expensive cold last mile. Building refrigerated staging areas, buying and using refrigerated trucks (if you can find them), executing pick-and-pack workarounds when you're dealing with multi-temperature foods — none of it is cheap or easy.

**What if we could solve for refrigeration in a nimble, cost-effective, mobile way? What if, from the moment perishables are picked to the moment they are received by the customer, there were an easy way to control for the crazy-expensive refrigeration portion of the equation?**

**Well, we did, and there is.**

**PackIt Fresh EcoFreeze<sup>™</sup> Totes** are the mobile refrigeration solution to the final-mile cold-chain problem. From cooler to curb, PackIt's freezable delivery totes keep perishables in a cold, food-safe environment for up to 15 hours. They maintain food-safe temperatures throughout fulfillment and distribution, ensuring the cold chain is never broken.

## Consolidated order staging

With mobile refrigeration, retailers can pick and pack items of any temperature at the same time, into the same container. Currently, many retailers employ a pick-and-pack system that looks something like this:

- Worker goes out and picks the refrigerated items for the order, then runs to put them in the refrigerator in the back of the store.
- Worker goes out and picks the frozen items for that order, then runs to put them in the freezer in the back of the store.
- Worker goes out and picks the ambient items for that order, then runs to put them in the back of the store.
- All the items for that one order sit in three separate areas in the back of the store, depending on what temperature control they require.

That process takes a ton of time and has an awful lot of touch points. With PackIt Fresh freezable totes, the worker takes the refrigeration with them, placing items from all three temperatures directly into the frozen totes. Then they carry the full order to the back of the store and leave it in any ambient staging environment — no refrigerated staging area is necessary.

When the customer or transporter arrives to pick up the order, the worker doesn't have to run to three different areas to pull the various parts of the order. Time and touch points are reduced by consolidating and staging picked orders into what is,

basically, a one-step process. The entire order is sitting in your (non-refrigerated) staging area, where it can be quickly and easily handed over to the customer or delivery driver.

### **Improved order accuracy**

The practice of a full order being picked directly into one refrigerated bag is also a game-changer when it comes to getting your customers' orders right. The exercise of pickers packing into multiple containers left in multiple locations just begs for mistakes to happen.

"Every error despatched from your warehouse has an impact on profitability," writes Bryan Goodall, a storage-solutions sales manager in Australia. "Studies show that the average industry picking error rate is between 1% and 3%. While this sounds like a pretty good rate, it's not until you look at the full cost of picking errors in your warehouse and understand the average cost per error is anywhere from \$50 to \$300 dollars or an 11%–13% drain on profitability."

With a full order in one bag from pick to pickup, order accuracy – and profit – increases.

### **Batched orders**

The same principle applies with batched orders. Without the need to pick items from different temperatures separately, the efficient process of batched orders becomes even *more* efficient. Workers can pick all the orders in a batch directly into individual frozen bags. No need to sort into separate orders later, no running back and forth to store refrigerated or frozen goods. By carrying the refrigeration with them, workers can pick more orders at once, saving both time and money.

### **Longer delivery routes, more deliveries per driver**

For oh so many reasons, we want to eliminate the use of expensive, environmentally unfriendly refrigerated trucks. But if your truck is not refrigerated, you're left with a van with no refrigeration, which necessitates shorter routes with fewer deliveries to ensure your customer's milk isn't spoiled when they receive it.

Mobile frozen totes let drivers do longer routes with more deliveries per route, bringing the cost per drop way down. You can send a driver out for several hours on an efficient loop route, where they can drop off six to eight orders. At the end of that route, they loop back to the retailer and drop off the totes to be refrozen again for the next day.

### **Improved customer experience**

What customer is happy finding melted ice cream at their door? Keeping your customers' perishables at the right temperature from the moment they're picked ensures customers receive accurate, complete, fresh food orders. Since the orders can be packed in the retailers' own bags right inside the refrigerated tote, handoff is quick, easy – and branded. The driver hands over the bag and brings back the tote to be refrozen.

Additionally, for membership or subscription programs, including meal-kit deliveries, drivers can even leave the PackIt tote with the customer and pick it up during the next delivery. You'd be surprised how excited customers get when they find a special silver tote waiting on their doorstep.

At six to seven cents per use, PackIt Fresh freezable totes decrease the cost and increase the efficiencies of final-mile deliveries, all while ensuring the cold chain is never broken.