

What's in a bale?

Tracking food-grade polypropylene in the USA's recycling streams

In the largest-ever study of post-consumer food-grade polypropylene (PP), we used AI to analyze 45 million waste objects at some of the USA's largest plastic recovery facilities, across 4 states.

Here's what we found:

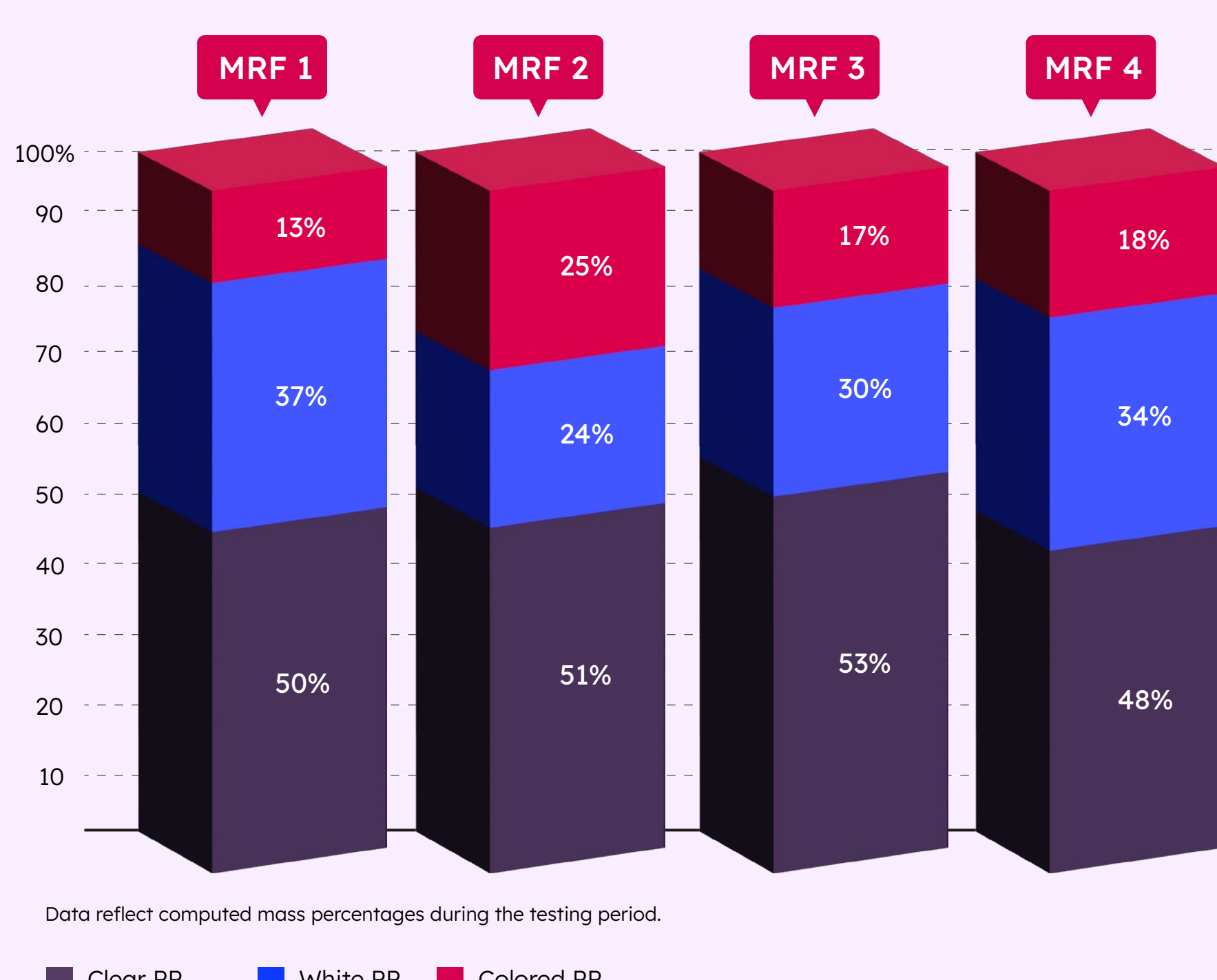
There is an **abundant supply of post-consumption polypropylene**, available for recycling.

Of all the PP objects we detected:

>81% were high-value clear or white PP

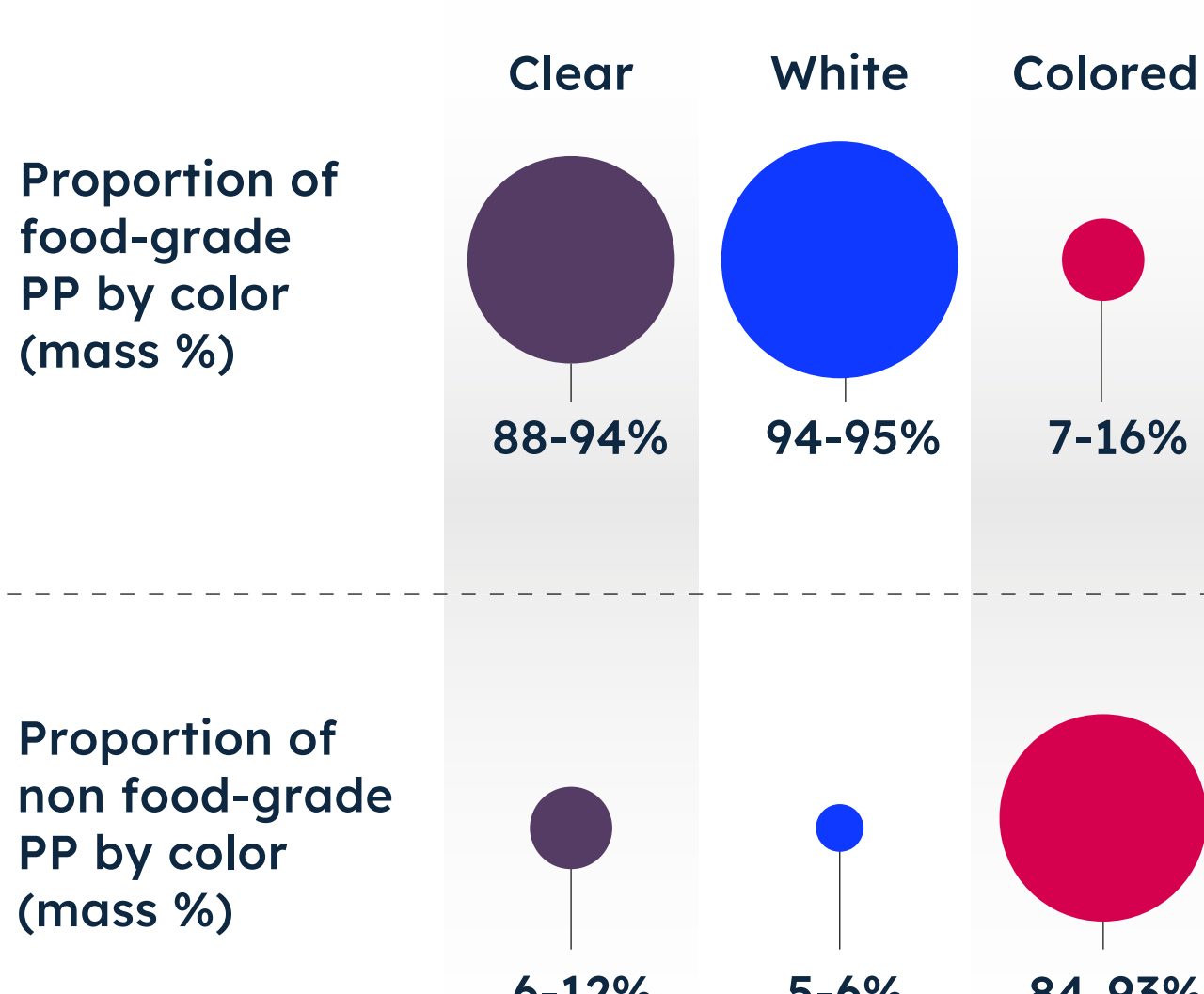
>50% were clear packaging

>31% were white packaging



Most recyclable PP can be used for food service packaging

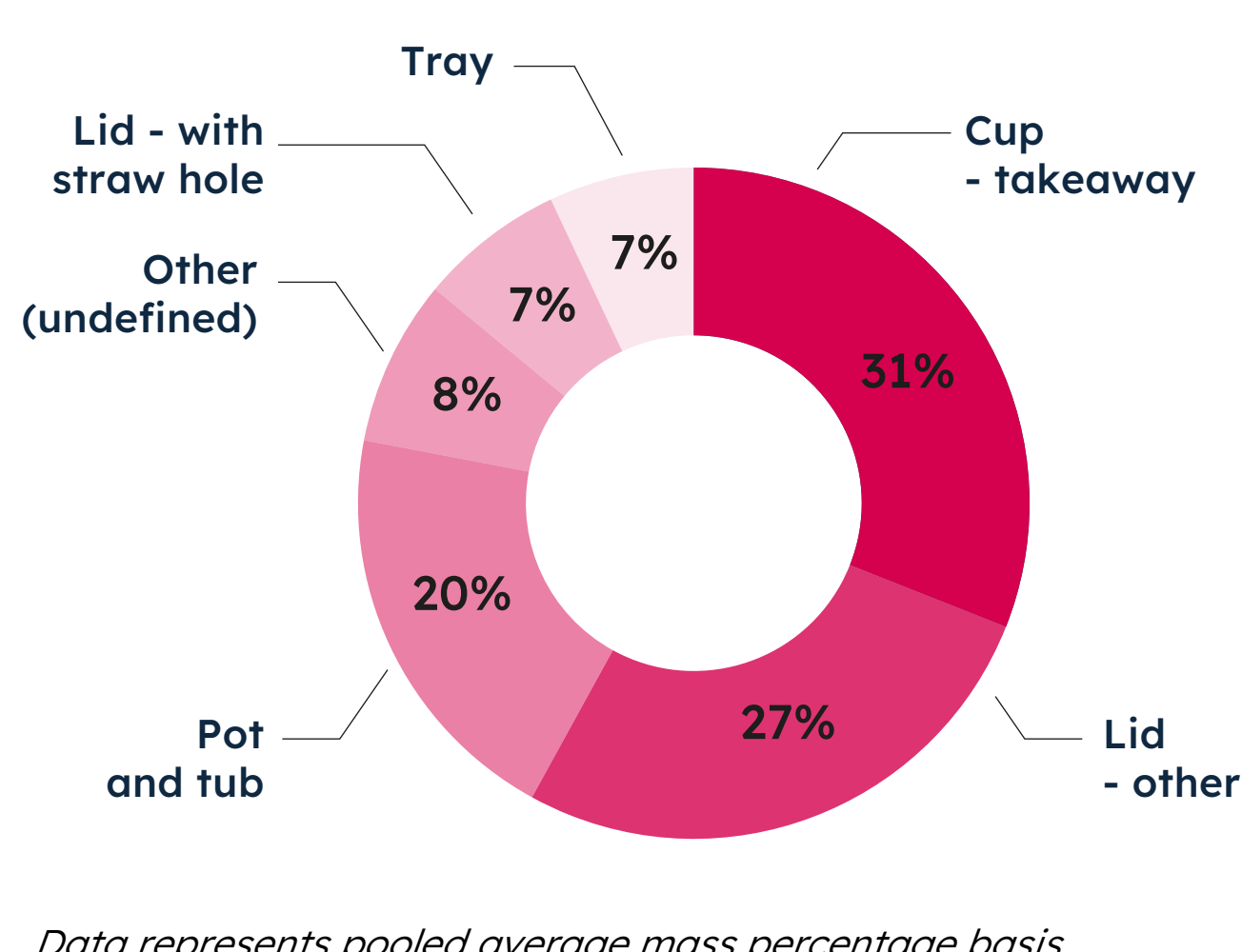
Clear and White PP accounted for the majority of food-grade PP.



Food service packaging dominates clear PP supply

Takeaway cups comprised the largest fraction at around 31% (mass basis), followed by lids, then by pots and tubs.

Most recyclable clear PP can be recycled in food service packaging.

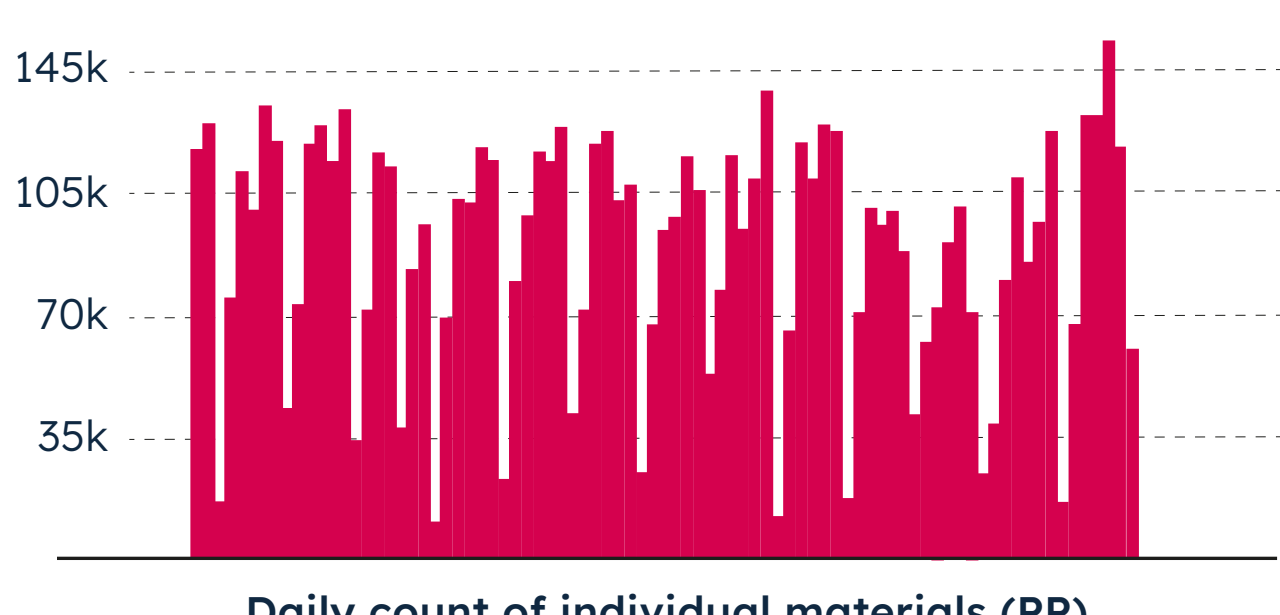


PP volume shifts on a day-to-day basis

Creating a steady supply of recycled PP means accounting for fluctuations in supply and facility performance.

Representative count of PP materials at one MRF over 4 months

These numbers highlight the variable nature of the material arriving at large MRFs, and reflects key events like partial-day operations.



Maintenance improves recovery rates and increases supply of recycled PP

An optical sorter upgrade substantially increased PP purity by 13%.

End-of-life optical sorter PP purity changes before and after upgrade



Building a circular future for PP depends on action across the entire ecosystem

From design to recycling, every stakeholder has a role in keeping PP in use and out of waste, strengthening supply and accelerating the transition to a more sustainable system.

MRFs

Need to boost sorting efficiency to recover more high-quality PP.

Brands

Need to use recycled PP in their products to meet recycled content mandates.

Recyclers

Need a reliable supply of high-quality material to meet growing demand for recycled PP.

Packaging producers

Need to design and offer more recyclable PP packaging.



Download the report



Our mission is to use AI to digitize the waste value chain and accelerate our transition to a circular economy.

Get in touch

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