BCG

How Cost Intelligence Is Reshaping Parcel Logistics

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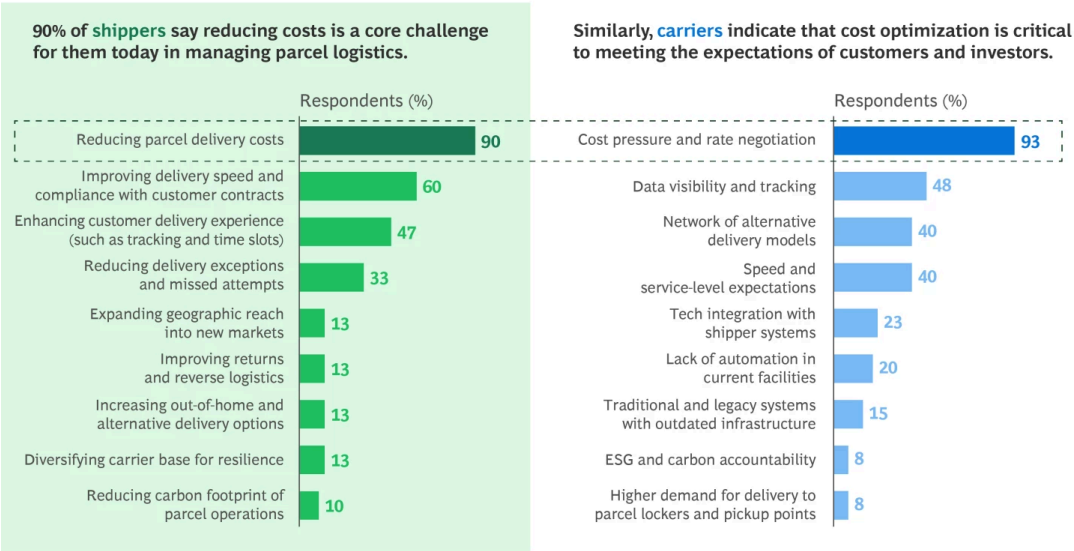**ARTICLE**   FEBRUARY 03, 2026   12 MIN READ

For more than a decade, parcel logistics rode a powerful tailwind from the e-commerce boom. As volumes surged, carrier networks expanded rapidly, and parcel growth masked inefficiencies that would have been unsustainable in a slower market. That cushion is now gone.

Parcel volumes are still rising, but the operating reality has changed. Networks built for relentless expansion are now wrestling with underused assets, fragmented volume flows, and cost structures that no longer adjust to demand. Slowing growth, rising fuel and labor expenses, and elevated service expectations—especially for home deliveries—are pushing costs persistently higher.

BCG's 2025 Parcel Study, based on research with parcel carriers and large shippers across Europe and North America, shows just how sharply the industry's priorities have shifted. Fully nine in ten shippers and carriers now cite cost reduction as their top challenge—well ahead of speed, reach, or customer experience. (See Exhibit 1.) Last-mile delivery—the final stage of a journey that can span ocean, air, and rail—now accounts for 50% to 60% of total cost, and more than one in seven carriers report average delivery costs at above five dollars per parcel. In this climate, small inefficiencies quickly become material.

EXHIBIT 1

Rising Cost Pressures Affect Shippers and Carriers Alike

90% of shippers say reducing costs is a core challenge for them today in managing parcel logistics.

	Respondents (%)
Reducing parcel delivery costs	90
Improving delivery speed and compliance with customer contracts	60
Enhancing customer delivery experience (such as tracking and time slots)	47
Reducing delivery exceptions and missed attempts	33
Expanding geographic reach into new markets	13
Improving returns and reverse logistics	13
Increasing out-of-home and alternative delivery options	13
Diversifying carrier base for resilience	13
Reducing carbon footprint of parcel operations	10

Similarly, **carriers** indicate that cost optimization is critical to meeting the expectations of customers and investors.

	Respondents (%)
Cost pressure and rate negotiation	93
Data visibility and tracking	48
Network of alternative delivery models	40
Speed and service-level expectations	40
Tech integration with shipper systems	23
Lack of automation in current facilities	20
Traditional and legacy systems with outdated infrastructure	15
ESG and carbon accountability	8
Higher demand for delivery to parcel lockers and pickup points	8

Source: BCG's 2025 Parcel Study survey.
Note: Participants were asked to respond to the following questions: "What are the top three challenges your shippers are bringing to you right now?" and "What are the top three challenges your carriers are bringing to you right now?" ESG = environmental, social, and governance.

This is not a cyclical slowdown but rather a structural change in how goods move. Consumers now expect fast, convenient, and transparent delivery. And in this new environment, traditional cost cutting is no longer enough. The next competitive advantage will be cost intelligence: the ability to see, manage, and continuously optimize the true cost of service at the parcel, route, customer, and network level. Carriers can then translate that intelligence into operational and commercial gain.

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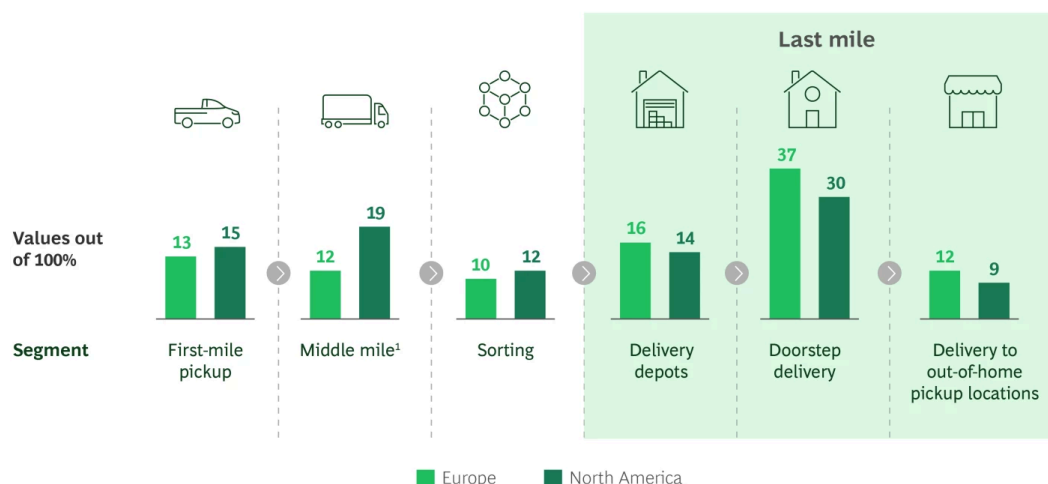
Why Parcel Economics Are Breaking Down

The basic economics of parcel delivery have changed. E-commerce now represents roughly 80% of B2C parcel volumes, but that scale has not created the density carriers expected. Instead of making bulk deliveries to stores, carriers now serve residential routes with one to two parcels per

stop—making the last mile the biggest driver of cost. (See Exhibit 2.) As density continues to fall, so does route efficiency. Travel time between stops increases, failed deliveries grow, and fixed costs are divided across fewer packages.

The "Last Mile" Now Represents More Than 50% of Total Delivery Costs

Last mile

	First-mile pickup	Middle mile[1]	Sorting	Delivery depots	Doorstep delivery	Delivery to out-of-home pickup locations
Europe	13	12	10	16	37	12
North America	15	19	12	14	30	9

Values out of 100%

Segment

■ Europe   ■ North America

Source: BCG's 2025 Parcel Study survey.
Note: Participants were asked to respond to the following questions: "What is the percentage split of costs across your parcel value chain today?" and "What are the top levers you are pursuing to optimize costs?"
[1]"Middle mile" includes linehaul costs.

At the same time, new types of shipments add complexity but not more revenue. Social media commerce, secondhand online sales in Europe, and Chinese cross-border platforms like Temu are flooding networks with smaller, lower-margin shipments. Combined with rising energy and labor costs, stricter laws on emissions and congestion, and retailer moves to bring more logistics in house, these forces continue to push costs higher.

Networks Built for a Different Era

Most parcel networks were not designed for today's level of fragmentation. Many carriers maintain cost models at the product or depot level but lack real-time insight into the performance of the vehicle, route, or driver. Time per stop, load factors, and route deviations can vary by 30% to 40% across comparable districts, yet this variance often remains invisible in daily operations. Fleet usage tends to plateau between 70% and 80%, limiting opportunities for on-the-fly adjustments.

Returns amplify the strain. Sixty percent of shippers now require dedicated return solutions—yet most carriers still rely on paper labels, lightly integrated manual handling, and limited tracking. Reverse logistics becomes a drag on both cost and customer experience.

Automation has helped, but not enough. Roughly one in five carriers operates highly or fully automated primary sortation centers, with most still using manual or semi-mechanized processes. Adoption is somewhat higher in the US than in Europe, but neither region has reached automation levels that materially improve unit economics. Taken together, these constraints lock carriers into cost structures that are both high and rigid—precisely the opposite of what today's markets demand.

Rising Expectations, Shrinking Headroom

These cost pressures affect operations and commercial relationships, too. Pricing structures have become more complex, but transparency remains limited. Nearly half of shippers describe their carrier's pricing as only somewhat transparent, pushing them toward multicarrier strategies and shorter contract cycles.

Surcharges for fuel, residential deliveries, peak season, remote areas, oversized items, and address corrections help protect carrier margins but introduce volatility and reduce shipper trust. At the same time, service expectations remain uncompromising. Shippers still expect speedy on-time deliveries and full visibility. Deliveries on the first attempt remain uneven, particularly in markets requiring signatures.

The result is a widening gap between cost and perceived value. Shippers feel they are paying more without better service, while carriers feel squeezed between inflationary inputs and rising customer demands.

How Shippers and Carriers Are Responding

Despite these structural pressures, the industry is not standing still. More than half of parcel shippers have redesigned their network strategy since the cascading supply chain failures of the

pandemic years, with the most common shift being toward multicarrier models. Rather than rely on a single national provider, shippers increasingly segment carriers by geography, product type, and service level. This approach increases resilience, reduces lock-in, and enables tighter alignment between cost and service.

Retailers are also selectively insourcing logistics, particularly in dense urban zones where store networks or microfulfillment hubs offer structural advantages. This trend is most pronounced among retailers that ship more than a million parcels per year. At the same time, large global retailers are adding more fulfillment centers, regional hubs, and owned or partnered delivery capacity. They don't aim to replace carriers entirely but to control the most critical segments of the value chain.

For carriers, this creates both risk and opportunity: potential volume shifts but also a chance to orchestrate hybrid ecosystems that integrate retailer fleets, aggregators, and national networks.

Out-of-Home Delivery Restores Density

Out-of-home (OOH) delivery stands out for its potential to cut costs, even if adoption has been uneven. (See Exhibit 3.) European markets have demonstrated, at scale, the benefits of delivering to dense networks of parcel lockers and pick up and drop-off networks. In our study, carriers that delivered more than 10% of their volume to OOH locations such as retail shops were far more likely to keep the delivery cost per parcel below three dollars.

OOH works because it restores density. It consolidates stops, eliminates failed attempts, and reduces miles driven. Carriers estimate that OOH drop-offs cost 30% to 40% less than doorstep delivery. North America lags largely due to consumer preference and limited incentives, but even modest shifts toward OOH delivery would yield sizable efficiency gains in the most expensive part of the network.

Turning Returns into a Strategic Asset

Returns present a similar opportunity to reduce structural costs. European carriers report lower costs for processing returns than their North American peers, driven by higher OOH usage and tighter integration with retailer platforms. Both regions are experimenting with lower-cost return solutions such as consolidation points, bulk return flows, and digital portals that reduce manual handling and improve visibility.

For carriers willing to invest in data-rich return networks, a historic cost sink can become a source of improved economics and customer stickiness—one that is harder to replicate than basic delivery services.

Where Automation and AI Pay Off

If the past decade was about expanding capacity, the next will be about using existing assets more productively. Here, digital technologies—particularly automation and AI—are key.

Most carriers are investing in automation, but results vary widely. Ninety percent of European carriers and about 60% of US carriers report active initiatives in areas such as depot robotics, digital control systems, and automating sortation and trailer or yard management. Some are testing digital twins of terminals and machine-vision quality checks. These initiatives generate the most value when connected across the network, linking automated sorting to route planning and depot systems to real-time dispatch. When integrated, automation improves unit economics end to end rather than in scattered pockets.

Automation improves unit economics, but cost intelligence determines how consistently those gains are realized. Roughly three-quarters of carriers, as well as many shippers, expect AI and data intelligence to be the primary force reshaping parcel logistics over the next five years. (See Exhibit 4.)

AI's impact will be felt in three areas:

First, **smarter routing and capacity orchestration** will help carriers balance cost and service by optimizing routes in real time based on parcel mix, traffic patterns, weather, delivery windows, and OOH distribution. This has the potential to improve drop density and reduce miles driven.

Second, **predictive visibility and risk management** will enable carriers to manage every facet of their network proactively, not reactively. Machine learning models will help carriers forecast peak volumes, predict delays, and intervene early to maintain service levels.

And third, AI will usher in a new era of **customer-centric logistics** that lets carriers offer more personalized delivery options. Consumers can be nudged toward OOH deliveries, greener shipping choices, and more efficient return options.

For carriers, the challenge is not deploying AI tools but integrating them into planning, dispatch, pricing, and customer communication so they reshape how the operation runs day to day.

From Cost Cutting to Cost Intelligence: A New Agenda

Shippers increasingly expect carriers to be digital partners. Ninety percent say integrating technology is the biggest hurdle to changing their carrier, even more so than price. Moreover, most view real-time tracking application programming interfaces (APIs), performance dashboards, exception alerts, and flexible pickup options as the new baselines for service.

Yet many carriers have focused more on internal operating systems than on customer-facing platforms. Closing this gap is essential in a world of multicarrier ecosystems and selective insourcing. Carriers that offer seamless integration, rich data, and collaborative orchestration will be best positioned to retain strategic relationships.

The parcel industry cannot cut its way out of the profit squeeze. It must instead build cost-intelligent networks, operations, and commercial models that align price, service, and true cost to serve. That shift rests on three moves:

Reinventing the Network. Redesigning the network starts with accepting that yesterday's parcel model no longer fits today's flows. Multichannel e-commerce has fragmented volume and raised costs, which means networks must be redesigned around density, flexibility, and multicarrier collaboration—not scale alone.

OOH delivery becomes central in that redesign. Carriers need to set clear penetration targets by market, align incentives with retailers and marketplaces, and build lockers and pickup and drop-off points into their route design and pricing. The goal is simple: restore density where the last mile has lost it.

The same logic applies to returns, which can no longer sit outside the core network. Digitized returns hubs integrated with retailer platforms help carriers consolidate flows and offer differentiated options—from low-cost bundled returns to premium exchanges and more sustainable refurbishment or resale. What was once a cost sink becomes a designed flow with clear economics.

Partnerships fill the remaining gaps. Shared urban microhubs and locker networks and the use of specialists on financially challenging routes enable carriers to extend coverage without rebuilding subscale assets. Selective insourcing also plays a role. Retailers should insource where density and

brand experience matter most, while carriers offer white-label or co-branded solutions that preserve the customer relationship.

Making Digitization the New Operating Model. Network redesign only delivers value when reinforced by digitization. Too often, digital investments remain trapped in pilots that never change daily operations. To deliver real productivity gains, digitization must become the backbone of the operating model.

That starts with automation choices anchored in cost-to-serve economics. The goal is not labor replacement but reducing cost per parcel where it matters most. Sequencing investments in sortation, depot robotics, and yard automation based on financial impact is critical.

AI extends those gains when embedded into daily decision making. Integrated forecasting, dynamic routing, and fleet optimization allows carriers to move from fixed schedules to continuous, data-driven adjustments.

Digitization also must face outward. Shippers increasingly expect plug-and-play integration, standardized APIs, easy onboarding, and dynamic dashboards with transparent performance and cost data. Internally, real-time visibility at route, vehicle, and driver levels supports better incentives, sharper network planning, and more informed commercial discussions. This is not a technology upgrade—it is a transformation of roles, incentives, and decision making across the network.

Redesigning the Commercial Model. With cost intelligence in place, the commercial model can finally reflect operating realities. Pricing needs to reflect true cost drivers and reward behaviors that improve density and flexibility. That means moving beyond blended rates to flow-specific pricing—standard residential, premium same day, marketplace consumer to consumer, bulky, and cross-border. (See Exhibit 5.) Discounts should reinforce the right behaviors, particularly high-volume, density-boosting, and OOH deliveries.

Dynamic pricing is the next step. Adjusting rates based on demand, lane congestion, and network use helps smooth peaks and allocate capacity more efficiently, much as airlines and rail networks already do. Residential, remote, and peak surcharges should be more transparent to show the underlying cost drivers. They should also be supported by joint programs that shift volume to lower-cost options such as OOH or off-peak periods.

Shared performance data—covering on-time deliveries, first-attempt success, and return handling—should guide regular recalibration of prices, service commitments, and network design. Done well, this approach turns contentious annual negotiations into ongoing, data-driven partnerships.

The Efficiency Era of Parcel Logistics

Parcel logistics is entering a new era defined by efficiency, not growth at all costs. The boom years helped carriers build sophisticated operations and networks that cemented the industry's role in everyday life. But they also exposed structural weaknesses that now constrain margins and further investment.

Cost intelligence shows the way forward. Leaders who act decisively—while growth is positive, capital is accessible, and customer expectations are still evolving—can build networks that define the next decade of logistics.

These networks will be centered on OOH, integrated returns, and flexible, multicarrier ecosystems. They will harness automation, AI, and real-time visibility to increase productivity and establish transparent, dynamic pricing that creates shared value. Those that hesitate risk being stuck in outdated economics as the industry moves decisively from cost pressure to true cost intelligence.
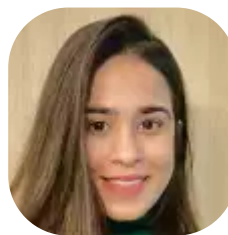
The authors wish to thank Katelyn Hermanson and Denis van de Voorde for their contributions to this article.

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