

Online Shopping And Its Impact On The Environment

by Sam Williams

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For New Yorkers, shopping online means less travel time and, on occasion, lower costs. It also means more trash to put out at the curbside. Because most online retailers rely on major private carriers such as UPS and FedEx to deliver their goods, this holiday season saw not only a sharp rise in local deliveries but a similar rise in the amount of paper, cardboard and plastic pushed into the city waste stream.

According to the Department of Sanitation, New Yorkers left more than 8,300 tons of cardboard and mixed paper at the curbside in the first full collection week after the Christmas holiday, a 21 percent jump over the same period last year.

This year's post-holiday numbers were inflated somewhat. Sanitation spokesman Matthew Lipani notes that an awkward alignment of Monday holidays that forced many residents to hold onto their recyclables an extra week. Still, immediate pre-Christmas tonnage -- 7,258 tons this year vs. 6,033 tons last year -- showed a 20 percent increase in paper recyclables and paralleled a national 25 percent surge in holiday online sales according to the Internet research firm comScore.

Positive Or Negative Effect?

Such numbers indicate a cultural sea change not only in how New Yorkers are shopping but also in how much trash and recyclables the city will have to process in the years to come. Given the lack of studies on the overall online shopping "life cycle" -- the total net effect on the environment once products have made their way from raw material all the way to consumer's wastebasket -- environmentalists, for the moment, see only a collection of positives and negatives adding up to a giant question mark.

"There is no guarantee that the Internet's net environmental impact will be positive," [writes Nevin Cohen](#)

, a professor of environmental science at The New School. "For decades, technology watchers predicted that the personal computer would result in the 'paperless office,' but U.S. shipments of office paper actually jumped 33 percent between 1986 and 1997. E-commerce could have similarly negative effects."

Boost To Recycling

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From a short-term perspective, the cultural shift away from brick and mortar retail seems to offer a net boost to the city's recycling program. Of the city's two major recycling contracts, the cardboard and mixed paper contract with Visy Paper is the one that actually [pays the city for what it recycles](#)

(in pdf format), roughly \$7 a ton according to the city's Bureau of Waste Prevention, Reuse & Recycling.

Because the Department of Sanitation also tends to divide per-route costs by the number of tons collected, extra cardboard at the curb in December and January means a better bottom line for the overall recycling program over the long term.

More Pollution, More Trash (Like Styrofoam)

Balancing out such benefits, however, are several concerns. Cohen notes that the biggest benefit associated with online retail is the reduced number of vehicle miles as shoppers take fewer trips to the local mall or department store. As December's transit strike demonstrated, however, many New Yorkers rely on mass transit (not cars) to do their Christmas shopping. "In New York, there might not be an environmental savings," says Cohen. "In fact, the net might even be negative once you figure in the additional vehicle miles needed to deliver packages."

A second concern is the amount of new, non-recyclable or hard-to-recycle materials that come with products ordered online. Many retailers and shippers, in order to protect their goods, load up on plastic cushioning materials such as foam rubber, bubble wrap, and expanded polystyrene -- a material many know by the Dow Chemical trade name Styrofoam. So far, the city does not collect these materials nor does it have many private company suitors begging to take these materials off the city's hands.

The reason, says Betsy Steiner, executive director for the [Alliance of Foam Packaging Recyclers](#), boils down to the materials' very nature. Bulky, light and easy to produce in virgin form, foam and bubble wrap are a tough fit for a recycling industry that makes its profit on a per-ton basis.

"Basically, you're collecting and shipping air," Steiner says. "So for a program to work, it has to be localized and in very, very large quantities to be economically viable."

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Shipping air is cheap, of course, but not as convenient as simply dropping things off at the curb. Steiner says her organization gladly accepts mailed packages that include the molded foam packaging used to shield iPods and other modern electronic products. Those looking to recycle foam peanuts, a product her organization doesn't accept, can visit the nearest UPS Store or visit the Plastic Loose Fill Council's ["Find a Collection Center"](#), enter a zip code and get the address of the closest business that collects loose fill foam.

Making The Manufacturers And Retailers Responsible

The day when New Yorkers can simply leave such materials in the blue can at the curbside is still a long way off, however. In the meantime, organizations such as [INFORM](#), a Wall Street-based non-profit firm organization promoting "strategies for a better environment" advocates a European-style system that shifts the responsibility for the waste processing of worn-out products and packaging away from municipalities and consumers and back onto the producers themselves.

"It's kind of like a welfare system that we've generated for manufacturers here in the U.S.," says Lloyd Hicks, director of INFORM's solid waste prevention program.

Hicks holds up Germany as the most obvious counterexample. In 1991, the government mandated that manufacturers and distributors take back all transport packaging, including expanded foam and blister wrap. Manufacturers that don't wish to process such materials can opt out via the Green Dot program, a non-profit program which finances packaging material recycling. To gain membership in the program, companies pay a scaled fee depending on the amount of material recycled. Once in, they earn the right to put the Green Dot logo on their packages, making their products more desirable to distributors who might otherwise bear the recycling responsibility.

"They've found a way to deliver the same products with less packaging," says Hicks. "That's one reason we believe there should be a way to provide a similar system in the U.S."

Learning From NetFlix

The Alliance of Foam Packaging Recycler's Steiner says her organization doesn't endorse producer responsibility legislation. She says the real issue isn't who pays for recycling so much as who is willing to buy the recycled materials once they've been processed.

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“I think on the surface it looks like, oh, it’s getting paid for, but the bottom line is they’re still encountering problems on the end use market,” Steiner says. “That’s been the problem with plastics recycling globally. The raw material is so cheap you just get into the chicken or the egg thing.”

Cohen, the environmental science professor, shares Steiner’s sentiment somewhat. Like Steiner, he sees the Green Dot program as a top down solution to a bottom up problem -- i.e. individual consumers shifting their shopping patterns as a way to minimize both stress and seasonal costs. Unlike Steiner, however, he sees a chance to phase out polystyrene and phase in packaging technologies that deliver, at worst, a net neutral effect on the environment.

“The long term goal should be to develop two-way packaging that eliminates the waste,” Cohen says, pointing to NetFlix, a movie rental company which ships its DVDs in reusable envelopes, as a pioneering example. “It would be great if Amazon.com and other companies developed a similar method for shipping their products.”

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