



Massachusetts
Department
of
ENVIRONMENTAL
PROTECTION

case study

State Office Supply Order Consolidation & Packaging Reuse Feasibility Pilot

Description of Pilot: New England Office Supply (NEOS), in collaboration with the Massachusetts Department of Environmental Protection (MassDEP) and the state Operational Services Division (OSD), conducted a pilot study in the fourth quarter of 2009 to test the feasibility of implementing a statewide package reuse and order consolidation program for deliveries to state agencies under the state contract for purchasing office supplies, recycled paper, and envelopes.¹

The pilot required participating agencies to coordinate with NEOS to reduce office supply deliveries to one day per week and for the company to collect used shipping boxes and packaging materials for reuse. Twenty-five state agencies at more than 70 different locations in nine communities (Framingham, Franklin, Milford, Natick, Northborough, Shrewsbury, Westborough, Worcester and Wrentham) participated in the pilot.

Shipping Box & Package Reuse: Most state agencies forfeit the opportunity to capitalize on reuse by choosing to recycle cardboard boxes and packaging materials after one use. During the pilot, NEOS collected empty boxes and packing materials from prior deliveries and reused them at least two additional times before recycling them. By implementing a reuse program, state agencies were able to reduce their use of boxes and plastic packaging by about two-thirds, saving money and protecting the environment.

During the year before the pilot, the state placed 19,668 orders from NEOS and received the office supplies it purchased in roughly 49,000 boxes. Had these packaging materials been reused twice more instead of recycled after one use, 32,000 fewer boxes would have been needed. At a cost of \$0.55 per box, this represents a potential savings of roughly \$18,000 annually.

Order Consolidation (OC): Before the pilot, NEOS had been required to deliver office supply orders to participating agencies on a next-day basis. As a result, the company needed to make multiple deliveries to state shipping locations every day. Each truck delivery consumed fuel, created greenhouse gas emissions and increased NEOS' processing and delivery costs. The OC program reduced deliveries to once per week, enabling NEOS to realize efficiencies in processing and distribution. Fewer truck trips also led to a reduction in greenhouse gas emissions.

In the previous year, it cost NEOS \$5.78 per order for packaging and processing and \$3.00 per order for delivery (not counting the cost of fuel), or a total of \$8.78 per order. By implementing a once-per-week delivery system for state agencies, the company would have eliminated 5,200 deliveries and saved roughly \$46,000. Beyond that, NEOS would have put 24,500 fewer miles on its deliveries trucks and saved an estimated 2,450 gallons of diesel fuel and an additional \$9,000 based on a cost of \$3.50 per gallon.

Pilot Results: Under the OC program, NEOS shipped 26 percent fewer total orders and packed six more items per box under the OC program. As part of the reuse program, state agencies returned 30 percent more cardboard boxes and packaging materials to NEOS than they had previously. Had the agencies maintained a once-per-week delivery system, the result would have been four percent reduction in miles traveled with an equivalent reduction in fuel costs and greenhouse gas emissions.

Potential Annual Savings

Shipping Box & Packaging Reuse:
\$18,000

Order Consolidation:
\$46,000

Fuel Savings (Gallons):
2,750

Annual Reductions in Greenhouse Gas Emissions:
5%

Pilot Results

26%
Reduction in orders shipped

30%
Increase in packaging materials returned to NEOS

¹ During the period in which this pilot was undertaken the office supplies, recycled paper, and envelopes contract was called OFF19 but has since been re-issued as OFF28.

Although some state agencies declined to sign the memorandum of understanding (MOU) at the onset of the pilot project, participants were generally supportive of the concept overall. However, the 30 percent return rate for boxes and packaging materials indicates that some agencies may be reluctant to alter their operations without additional incentives.

Pilot Survey: After the pilot, MassDEP and OSD distributed a survey to gather feedback from 58 participating state agency procurement managers. Twenty-two percent responded. Of these, nearly 90 percent considered the pilot project a good idea and more than 90 percent thought that order consolidation and box/packaging reuse represented an excellent waste prevention opportunity for state government.

Survey Results for Order Consolidation (OC)

- Nearly 70 percent of respondents feel that the order consolidation program should be launched statewide.
- Close to 60 percent of the pilot survey respondents thought OC helped to reduce paperwork.
- About 75 percent of respondents thought OC saved them time.
- Roughly 81 percent of respondents thought staff cooperative in relation to OC program.
- Approximately 67 percent thought the OC program made it easier to track orders.
- It was noted that end-of-year purchasing caused a rush of orders that made it difficult to stick with a one-day-per-week schedule.

Survey Results for Shipping Box & Packaging Reuse

- Roughly 78 percent of the respondents feel the shipping box and package reuse program should be launched statewide.
- More than 60 percent of the respondents thought returning the used boxes and packaging materials to NEOS saved time.
- Nearly 65 percent of respondents thought the boxes took up space in the office and increased clutter.
- Some respondents commented that returning boxes to NEOS eliminated their ability to reuse boxes and packaging materials for other internal shipping purposes.

Lessons Learned

- Reuse of boxes and packaging and reducing the number of deliveries improves efficiency and can result in cost savings.
- Cost savings opportunity provides incentives for both the vendor and the customer to reuse and recycle.
- Incentives or penalties may be required for agencies to fully comply with any sustainability initiative.
- Commitment from senior management for environmental initiatives breeds success.

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Additional Internet Resources

- Massachusetts WasteWise Program
<http://www.mass.gov/dep/recycle/reduce/wastewise.htm>
- U.S. Environmental Protection Agency (EPA) WasteWise Program
www.epa.gov/wastewise/wrr/rm.htm

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Produced by the
Bureau of Waste Prevention,
December 2009.

Printed on recycled paper.

This information is available in
alternate format by calling our
ADA Coordinator at
(617) 574-6872.

