



# Analytics

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**RELEASE: CRI - Center for Economic Policy and Analysis**

**RE: Curbside Recycling: Government Command and Control vs. Free Market Solutions**

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The Caesar Rodney Institute's analysis of the Universal Recycling bill, SB234 indicates tonnage diverted for the added recycled material will have a potential value of **\$0.8 million/yr.** Costs to Delaware residents will be **\$28.6 million/yr.** *So, each \$1 of benefit will cost Delawareans \$38 in spending!* DSWA landfills have an estimated remaining capacity of 56 million tons and an expected life of thirty years. Thirty years of diverted tonnage will add about 7 months to the expected life of the landfills but add almost \$860 million in costs to Delaware residents!

The Universal Recycling Bill is a command and control government based program. It sets mandatory participation by haulers, establishes a regulatory body, breaks new ground in taxation to create a revolving fund, spends consumer money with little regard for the cost/benefit ratio, and hides the cost from those same consumers (haulers may not show costs for recycling pick-up on their bills). It does increase recycling fairly quickly to a 70% participation rate, or about 37,700 tons/yr diverted from

landfills to meet the RPAC (Recycling Public Advisory Council) charter.

There is an obvious desire to recycle evidenced by the 62% voluntary participation by City of Milford residents who sign up for the \$6/month program. An alternative statewide free market based program would allow waste haulers to offer curbside pick-up services on a voluntary, but on a revenue generating basis. Our analysis indicates a voluntary program charging consumers \$8/month would yield a 59% participation rate and still divert 25,500 tons/yr from landfills although at a slower pace of market penetration than the Universal Recycling bill. The difference in diversion rates of the two programs adds about 2 months to the expected life of Delaware landfills.

The curbside hauling market might be worth \$20 million/yr with little price sensitivity. Haulers who did not participate would risk losing regular waste customers to full service companies. This would not require a "Recycling Fund" or the bottle tax to support it. Consumers would participate voluntarily with full knowledge of the cost. Those who didn't want to, or couldn't afford to participate, would save about \$100/yr in curbside hauling and beverage bottle fees.

**Value of Added Recycled Material from SB234 (see key assumptions)**

Additional recycled material: 37,700 tons/yr.

Value of recycled material at \$20/ton = 37,700 tons X \$20/ton = **\$754,000**

**Cost of Universal Recycling to Residents (see key assumptions)**

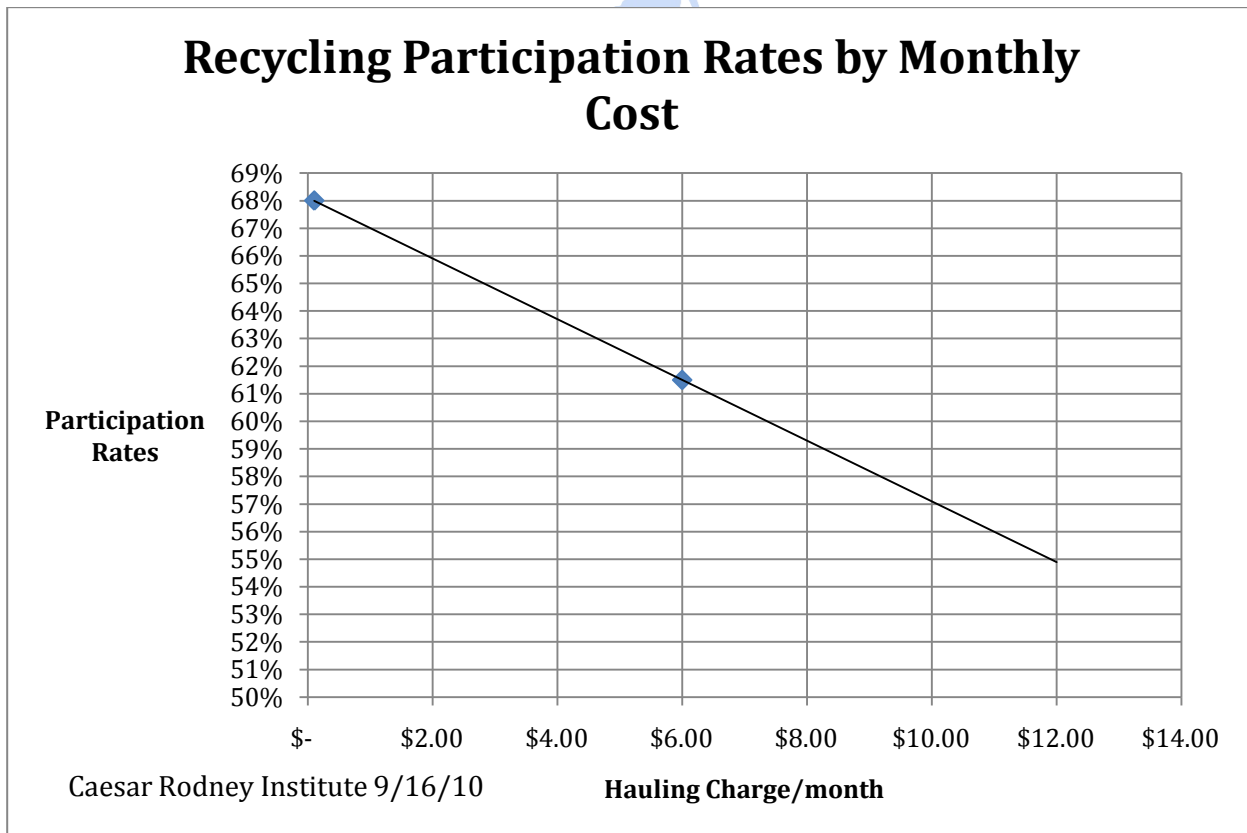
Annual bottle sales tax cost = **\$4,500,000**

Added cost of curbside recycling: 251,000 households X \$96/ household = **\$24,100,000**

Total annual cost to added households = **\$28,600,000**

Ratio of annual benefit/annual cost: \$754,000/\$32,900,000 = **\$1 benefit to \$38 cost**

Chart 1



Sources: DSWA and City of Milford

**Key Assumptions:**

- 1) **New households participating in single stream curbside recycling** – DSWA reports 76,000 households participate and another 42,000 use drop off centers out of a total of about 327,000 households receiving curbside waste hauling services. All residences will receive carts for recycling but only 70% are expected to use them in any significant way so there should be 229,000 households

using carts. The 42,000 using drop off centers can be expected to switch to using their new carts. So, the universe of new participants should be 229,000 less 118,000 currently participating in curbside pick-up or drop off centers, or 111,000 new participants. The number of households being charged a fee, however, would be 327,000 less 76,000 current curbside customers or 251,000.

- 2) **New tons diverted** – In FY2009 DSWA estimated 27,360 tons were collected from 76,000 participating households 0.18 tons/household. The City of Milford records showed 0.22 tons/household collected. Secretary O’Mara used 0.30 tons/household in testimony at a State House of Representatives hearing. Using the Secretary’s estimate times 111,000 added participants yields 33,300 of new tons diverted from the landfill. DSWA uses 37,700 diverted by 2015 which we use in this study although we think it optimistic. DSWA estimates 75,000 tons will be diverted by 2020 but we do not see a basis for this increase in either customer growth or additional tons/household unless recycling becomes mandatory for every household. Assurances have been made this will not happen so we are using 37,700 tons as the diversion rate.
- 3) **Value of recycled single stream material** – Single stream recycled materials are processed by DSWA at a cost of \$1.6 million/yr and sold to agents who re-sell to sorting plants mostly in India and China. The price varies widely over time. Secretary O’Mara has used \$20/ton as a long term average which is the rate we will use.
- 4) **Receipts from sales tax on beverage bottles** - SB234 Fiscal Note shows \$4.5 million/yr. We expect the tax will not end in 4 years but may be used for non-recycling purposes after the 4 year period. We charge it to recycling as it would have not passed without recycling as the motivation for the tax.
- 5) **Expected hauler fees for curbside single stream recycling** – The City of Milford shows a direct cost of \$5/month using existing equipment and existing manpower that was under-utilized one day a week. Milford offers every other week pick-up and splits the city in half for alternating weeks. We expect private haulers will see similar costs but will mark it up by some amount to cover fixed costs and profits. The largest private hauler in the state with about a 40% market share is Waste Management, Inc. Using a five year average from 10K reports covering 2005 to 2009, direct operating expenses were 63% of sales. This is equivalent to a 1.59 mark up of direct costs. So Waste Management, Inc. may be expected to charge  $\$5 \times 1.59 = \$8/\text{month}$  or \$96/yr.
- 6) **Tipping fee impact from diverted tonnage** – Haulers will avoid tipping fees for the diverted tonnage but DSWA is raising tipping fee rates to make up for the lost tonnage. Haulers will find tipping fees to be a wash.
- 7) **Job creation** – while new jobs will be created by curbside recycling, even more jobs can be created by leaving money in consumer hands as disposable income.

8) **Greenhouse gas emissions** – official EPA calculations show lower green house gas emissions when recycled materials are added to product streams compared to manufacturing new raw materials. However, these studies do not take into account gas emissions from transportation from Delaware to agents in Baltimore or from Baltimore to end users in India and China. They also don't consider the significantly higher gas emissions from manufacturing plants in India and China compared to US plants. We suspect little or no savings are actually realized.

**No attempt has been made to adjust for inflation, population growth, or the interest value of money spent.**

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