

Dubuque Curbside Collection of Glass as a Recyclable??

By Paul Schultz: Retired City of Dubuque Resource Management Coordinator

In 1991, "Gary Glass" was the City of Dubuque's recycling mascot when Dubuque became the first large city in Iowa to initiate curbside recycling. Gary attended events as a yellow cartoon character pointing at his watch and announcing "It's time to recycle." Twenty years later, Gary grew up and joined Sustainable Dubuque. He is now practicing comprehensive recycling and no longer setting out glass in yellow curbside bins.

Collection and processing of curbside glass recyclables has evolved over the last 25 years. Dubuque's program started with 10 materials separated by crews at the curb. Clear, brown and green glass were collected in separate truck compartments then dumped and bunkered separately at the recycling center. They were not processed on a sort line. When 20 tons of a color was bunkered, each load was shipped to a glass manufacturer. One contaminant, like a single ceramic cup, could cause the rejection of an entire semi-load of glass weighing 40,000 pounds. In 2008, because of contamination in glass loads shipped directly to glass manufacturers from most co-mingled collection curbside programs, Dubuque's clean separated curbside glass now had to be shipped to a distant intermediary optical sorting facility, for negative net revenue, and then reshipped to a manufacturer.

The bottom line was that collecting glass food and beverage containers in our local curbside recycling program was no longer a sustainable practice. In terms of Dubuque's sustainability model, it is a very poor economic investment with costs greatly exceeding benefits and offsets. It has very low net environmental benefits, if any. However it was "convenient" and had been a long practiced "feel good" activity.

Some Glass Factoids:

- Compared to other materials, recycling glass back into bottles has a very small direct environmental benefit (\$30.21/ton) but a very large handling/transportation carbon footprint and cost - getting handled / transported 10 times between our local recycling processor, then to a cleaning processor and then to a glass manufacturer.
- Comparing environmental benefits by weight: recycling 6 empty cans (3 oz.) equals one pound of newspapers, magazines, tin cans or plastic bottles, but equals 23 beer bottles (10 pounds).
- Collecting glass via curbside cost five times more per ton (\$300) than all the other curbside recyclables.
- Forty percent of Dubuque's curbside collected glass had an Iowa five cent deposit symbol on it.
- Whenever glass gets co-collected and delivered with other recyclables, most of it gets broken in the dumping and sort-line process. In the size and type of facility that the City is contracted with, this contributes to expensive equipment maintenance, it cross-contaminates paper and plastic commodities which significantly lowers their marketability and selling price, and the residual broken pieces end up landfilled.
- Glass is totally stable / inert in landfills and causes no direct pollution.
- There is a "Glass Only" drop-off recycling container at Dittmer Recycling financially subsidized by DMASWA. This glass is no longer acceptable or marketable to be shipped to an optical scanning processor, cleaned, color sorted, sold and used to make new glass containers and other glass products. It is currently "down cycled" and used as a substitute beneficial material in DMASWA landfill operations.