City of Bristol

Single Stream Recycling Pilot Program
City Background Information

- Population – 60,722
- Area of City – 25.5 square miles
- MSW curbside collections by Municipal employees
- Curbside collections for residential dwellings of five (5) units or less
- No Commercial Collections
Breakdown of Curbside Properties Served

- 16608 Residential dwellings served curbside
- 30 Five-family residential dwellings
- 96 Four-family residential dwellings
- 748 Three-family residential dwellings
- 1453 Two-family residential dwellings
- 14281 Single-family residential dwellings
- 19965 total residential units served curbside
Main Municipal Solid Waste Curbside Services

- Household Rubbish – collected weekly
- Recycling – collected bi-weekly
Other Special Curbside Collections Provided

- Leaf Collection (bagged leaves only) – weekly [month of April, and mid October through the end of November]

- Yard Waste – weekly summer subscription service [mid April through mid November] (presently $50.00 per year)

- Bulky Waste – by appointment [one pick-up per year per residential unit]

- Brush Pick-up – by appointment [unlimited]
MSW Disposal

- Rubbish - member of the Bristol Resource Recovery Facility Operating Committee [BRRFOC] which has a contract with Covanta (Waste-to-Energy Incinerator) in Bristol

- Recycling - member of the Tunxis Recycling Operating Committee [TROC] which has a contract with the IPC in Berlin presently owned by Murphy Road Recycling, LLC (formerly owned by Recycle America/Waste Management)
Public Works Curbside Collections Operations 1990 +/- to 1998

- 28 employees assigned daily to curbside collection
  - Daily Rubbish Collection: Eight (8) three-person rubbish routes
  - Daily Recycling Collection: Four (4) one-person recycling routes
- Total of 80 employees in operations [Solid Waste, Streets, and Equipment Maintenance]
- Between 1/3 and ½ of work force assigned to collections daily when considering [vacations, sick, worker’s compensation, etc.]
Public Works Overhaul Considered

  - Study was undertaken to try and improve efficiencies in Public Works
  - Of the whole study, City focused mainly on the portion of study that suggested going from three-man rubbish crews to two-man rubbish crews
- 1995 – Public Works began purchasing two-man rubbish trucks
Discussions of Public Works Overhaul

- 1996 – Emphasis on trying to implement two-man collection operations
  - Began negotiations with the Union
  - Union adamantly against two-man operation

- 1997 – Election year
  - Union still against two-man
  - Not much progress
  - Public Works started researching automated operations
  - Public Works chooses not to purchase any additional two-man collection trucks until negotiations progress further
1998 – Changes that supported alternative concepts

- Article on how the City of Los Angeles was looking to institute automated collections to save money – their program called for giving each resident a 65 gallon automated rubbish barrel and a 95 gallon SS [single stream] recycling automated barrel.
- Public Works began checking automated operations in Waterford, Springfield, Avon, etc. to see how they might apply to Bristol.
- Public Act 98-99 was going into effect October 1, 1998 which put a “ban on significant quantities of grass clippings sent to landfills and trash to energy facilities”.
- Public Works was planning on instituting a yard waste collection service for a fee beginning May of 1999.
March 1998 – Staff prepares a four (4) phase alternative concept plan to improve efficiency

- Phase 1 – Implementation of Automated Solid Waste Collection – projected to save $517,000 annually

- Phase 2 – As a result of DEP NOV’s, relocate compost site

- Phase 3 – In anticipation of starting a semi-automated yard waste collection program in 1999 – Phase 3 would be to automate it.

- Phase 4 – Automate Recycling Collection Operations.
Phase 4 – Automate Recycling Collection Operations

- Proposed Automated Recycling Collection Operations
  - Make the existing four (4) routes per day into two (2) routes per day
  - Provide each residence with two automated barrels [a red barrel for newspaper, cardboard, etc. and blue barrel for bottles, cans, etc.] – basically the Warwick, R.I. process
  - Two automated trucks would empty the red barrels daily and two other trucks would empty the blue barrels daily
  - No change in personnel – i.e. still four (4) trucks per day
  - If recycling was to increase in the future the barrels would provide the needed capacity
November 1998 – Union and City came to agreement on provisions to improve solid waste collection efficiencies

- The eight 3-man rubbish routes daily would be consolidated into six 3-man rubbish routes daily
- 2-man rubbish collection operation would be voluntary
- Job classification of “automated truck driver” created allowing for future automated collections
- Provisions for a semi-automated yard waste collection included
Plan Implementation

1999

- January 1999 - Present off-budget request to BOF [Board of Finance] for pilot automated rubbish collection program
- February 1999 – Number of rubbish routes reduced
- March 1999 - Request for BOF for pilot automated rubbish collection program as part of fiscal 1999/2000 budget
- May 1999 – Semi-automated yard waste collection program starts with 350 paying customers
Yard Waste Service
2000

- February 2000 – Request for pilot rubbish collection program as part of fiscal 2000/2001 budget

- May 2000 – City Council overrides BOF approved budget and approves budget modification that includes funding for a pilot automated rubbish collection program in final approved 2000/2001 budget
Pilot Automated Rubbish Collection Implemented

- **2001**
  - May – Pilot Automated Rubbish program started [5 routes – 1 per day]
  - November – Surveyed 10% of residents in pilot area
  - December – Survey indicates a 94% overall approval rating for automated collection

- **2002-2005**
  - Remainder of City automated
Benefits of automating rubbish collection operations

- Fiscal Year 1997/98 Board of Finance approved budget for Solid Waste Division - $3.55 million.
- Fiscal Year 2008/09 Board of Finance approved budget for Solid Waste Division - $3.39 million.
- Present budget is 4.5% less than FY1997/98 budget.
Solid Waste Worker’s Compensation Claims History

- 2005 – Automation fully implemented
- Average savings in Worker’s Compensation claims relative to 2003-04 is $130,000 per year
Final Savings from Automating Rubbish

- Freed up $1.14 million/year in labor, benefits, etc.
- Total savings $1.27 million/year in labor, benefits, worker’s compensation claims savings, etc.
- Reduced solid waste work force from 35 employees to 27 employees
Alternate Dual-Stream Automated Recycling

- **2000**
  - Dual stream automated cart – bottles, cans, etc. on one side; newspaper, cardboard, etc. on the other side
  - Requires a special split-body truck to empty
  - Barrel positioning at curb critical
  - Vendor indicated it was in use out west mostly but was coming east

- **2002**
  - At the SWANA show in Baltimore, they had a couple split-body trucks on display and there were multiple vendors had split barrels
  - Looked viable
Developments in Recycling

- **2003**
  - Concerns with durability of split-barrel container and need for special split-body trucks
  - Discussions with Recycle America indicate SS recycling is a ways off in Connecticut

- **2004**
  - Began auditing recycling and sending out letters to residents who are not recycling

- **2005**
  - Recycle America representative mentions that Waste Management may be building a SS facility in Auburn, MA
  - TROC hires Aceti Associates to prepare a report and recommendations for increasing recycling in region
  - Public Works requests funding from BOF for FY2005/06 for automated recycling barrels to be used for a pilot SS recycling route. Mention staff may need to haul material to Auburn, MA.
  - BOF cuts funding for request mainly because of potential hauling to MA.
2006

- April - Aceti report to TROC recommends to “make larger bins available in Bristol”
- Public Works considers going to weekly recycling
- However, cost of existing bi-weekly recycling is $539,000/yr while the cost for weekly recycling would be $1.04 million/yr
- Staff leaning toward a partial automation solution [automated barrel for newspaper, cardboard, etc. and the existing bin for bottles, cans, etc.] i.e. AA (automated assisted) program
- Yard Waste program automated
- Recycle America/Waste Management sells Berlin facility to Murphy Road Recycling, LLC
- May - TROC preparing a bin procurement and distribution to member Cities and Towns
- May - Bristol requests their share of funds instead of bins to be used as seed money to get BOF to allow purchase of automated recycling barrels for a proposed pilot AA recycling program
- November – BOF approves additional funding for pilot AA recycling route
2007

- May – Public Works introduces pilot AA recycling route (756 units served)
- Pilot residents given 68-gallon blue automated barrel – for cardboard, newspaper, magazines, office paper, etc.; existing bins to be used for bottles, cans, etc.
Pilot AA Recycling Route Implemented – 5/30/07
AA Collection
Results of Pilot AA Recycling

- Recycling increased 60.5% (for period from 5/30/07 to present vs. period from 1/6/2006 through 5/29/07)
- Increase of 60.1% (for period from 5/30/07 to 5/30/08 vs. same previous period 5/30/06 to 5/30/07)
- Rubbish dropped 7.8% on AA pilot route
2007

- May – BOF approves funds in FY2007/08 budget for a second pilot recycling route
- December – Public Works introduces pilot SS recycling route (896 units served)
Pilot SS Recycling Route Implemented – 12/7/07
SS Collection
Recycling increased 86% (for period from 12/2/07 to present vs. period from 1/6/2006 through 11/27/07)

Increase of 101.9% (for period from 12/2/07 to 8/31/08 vs. same previous period 12/2/06 to 8/31/07)

Rubbish dropped 6.4 % on pilot SS route
Cost Comparisons for Recycling — based on Bristol (includes equipment, labor, tipping fee, fuel, maint., etc.)

- Existing bi-weekly conventional collection - $539,000/year

- Weekly conventional collection - $1,040,000/year
  - Requires doubling recycling work force, equipment, etc.

- AA bi-weekly collection - $743,000/year
  - Added cost for automated portion of collection (barrels, truck $265,000 automated vs. $160,000 conventional)

- “Warwick, R.I.” (2 – barrels: dual stream) bi-weekly collection - $817,000/year
  - Added cost for both collections being automated

- “Single Stream” bi-weekly collection - $391,000/year
  - Savings of $148,000/year over existing conventional collection
Initially quality of material delivered was very good.

In the spring quality dropped off.

Concept of “one barrel does it all” possible cause of problem.

Staff inspected each barrel over the course of two collections.

Quality of material restored.
Our Conclusions – on the collection side

- SS seems to make recycling easier for residents
  - Still need to educate residents

- Residents are requesting the program be expanded

- SS provides a significant increase in recycling

- SS has a lower yearly cost

- SS can be done manually, probably need larger bins/barrel (35 gal.)

- Cannot do SS without an IPC that will take and handle the material
Recycling Improvement Options - Common Elements

- Pay-As-You-Throw
- Recycle Bank
- Single Stream

- Each option increases recycling
- Each option is dependent on larger recycling containers
Future Collection Thoughts – 20 years out

- Single Stream recycling on one side
- Rubbish on the other side
- Could increase recycling from bi-weekly to weekly
- Projected collection (rubbish/recycling) savings – 33% on fleet, labor, fuel, and maintenance costs