

City of Alexandria, Virginia

MEMORANDUM

**DATE:** JUNE 2, 2010  
**TO:** THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL  
**FROM:** JAMES K. HARTMANN, CITY MANAGER *J*  
**SUBJECT:** CONSIDERATION OF PURCHASE OF RADIO FREQUENCY IDENTIFICATION (RFID) TAGS ON NEW RECYCLING CARTS

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**ISSUE:** Consideration of purchase of recycling carts with the Radio Frequency Identification (RFID) tags.

**RECOMMENDATION:** That City Council approve the purchase of recycling containers with the Radio Frequency Identification (RFID) tags as outlined in Option 1 below.

**DISCUSSION:** During the May 25 City Council legislative meeting, Council discussed whether or not the Solid Waste Division should purchase the new recycling containers with the RFID tags. Several residents have expressed their concerns to Council members stating that they felt that this possibly could create an opportunity for the invasion of their privacy. They also said that they believed that this could be an opportunity for the City to come back later and charge them for not recycling if it was determined that they were not participating in the recycling program.

RFID tags have been in use more than 50 years but have only recently received widespread attention, due in large part to the use of the tags for logistics by large retailers and their suppliers.

After careful staff review and research to address the concerns of the residents the following options are presented.

**Option 1-** Purchase the new recycling carts with the RFID tags included. The Solid Waste Division will use the RFID tag to track the street, by block, leaving off the house numbers. T&ES would not track customer containers by individual names or specific addresses, only by street or block. This should address the privacy concerns and still enable the City to collect data for public education.

**Option 2-** Purchase the new recycling carts without the RFID tags. This is the least preferred option as retrofitting at a later date is more costly. This option does not allow Solid

Waste the ability to track its cart inventory. For example, if the container became missing it would be difficult to determine whether it was being used somewhere else in the neighborhood.

As part of our implementation plan, residents will be permitted to continue to use their yellow 18 gallon container in lieu of a larger cart.

The City of Alexandria Solid Waste Division, as part of the Eco-City Alexandria, is committed to protecting the environment, delivering sustainable services and being responsible with public funds.

The City plans to use this technology to focus the limited resources available to increase recycling in our curbside recycling program. Arlington County and Frederick, Maryland, among other jurisdictions, have successfully implemented the use of this technology.

**FISCAL IMPACT:** There are no financial impacts as the costs are budgeted and reflected in the Solid Waste User Fee.

**STAFF:**

Richard J. Baier, P.E., LEED AP, Director, T&ES  
Alton R. Weaver, Division Chief Solid Waste  
Stacy Herring, Recycling Coordinator  
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# Recycling Carts and RFID Tags



Transportation & Environmental Services

# Fiscal Responsibility

## T&ES Goals:

- **Manage \$600K+ assets**
  - Locate lost containers
  - Monitor repetitive problems/damage
- **Manage limited resources** (personnel & fiscal)
  - Manual participation rate currently requires staff time and additional vehicle/gas
- **Increase recycling efficiency and utilization of limited resources**



# Using Technology to Achieve Goals

- **Solid Waste Industry Standards:**
  - Serial Numbers
  - Barcodes
  - Private and Public Solid Waste Industry always tracked assets
- **Newest Technology = RFID tags**
  - Used as substitute for serial numbers/barcodes
  - Used in everyday activities (i.e. ez-pass, grocery stores, water meters).
  - More efficient to use and allows for other program options



# How the City could use RFID Tags

- Assign asset to a location
- Calculate participation rates automatically
  - Manual calculation is time consuming, less accurate and resource intensive
  - Current participation rate is approximately 65%  
City's Goal is to increase to 85% participation rate
  - Would enable us to allocate educational resources including printing and postage
- Participate in a recycling rewards program



# Who is using the Technology

- **Private companies:**
  - AAA/RecycleBank in Fairfax County
  - Bates Trucking/WMATA.
- **Jurisdictions:**
  - Arlington, VA
  - Falls Church, VA
  - Frederick, MD
  - Gaithersburg, MD
  - Howard, MD

