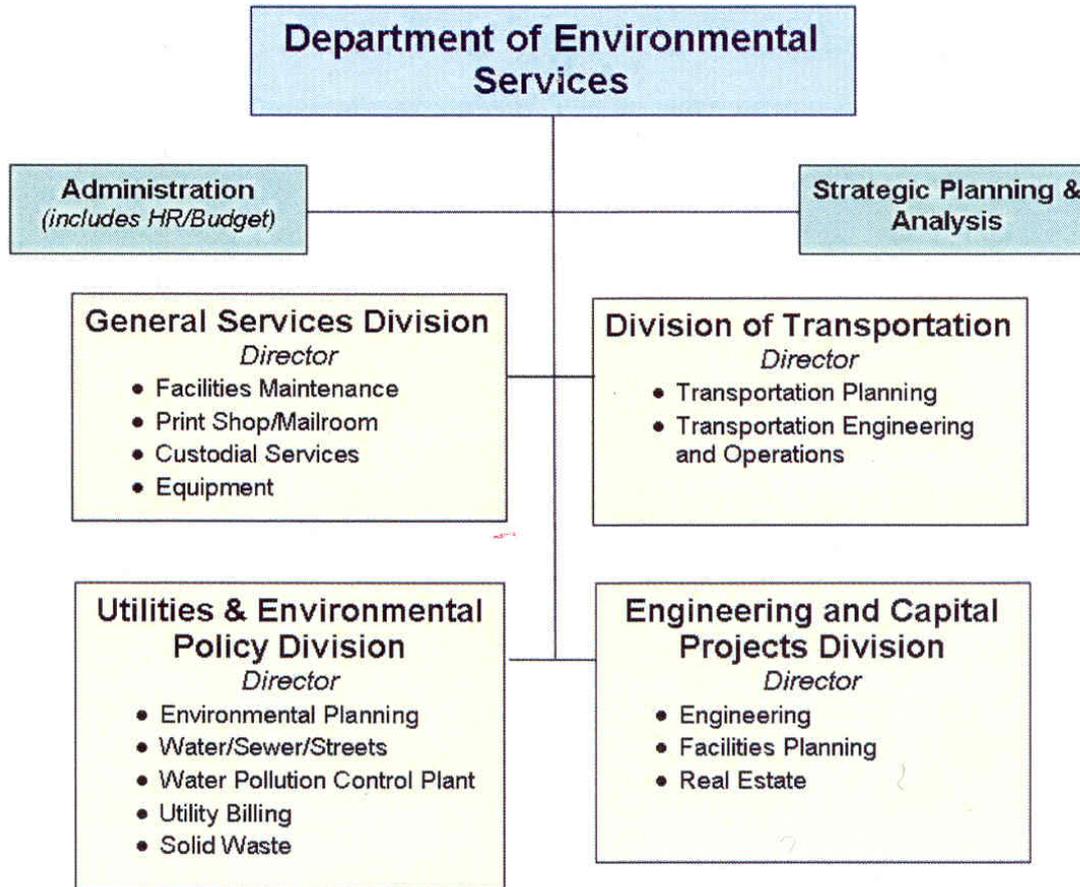




Arlington's Integrated Solid Waste Management System

Erik Grabowsky
Arlington County
January 6, 2009
Civic Federation Meeting



New terms for organizational units

Department

- ▶ **Division** (formerly department) — with directors of divisions
- ▶ **Bureau** (formerly division) — with bureau chiefs
- ▶ **Section** — with section heads



Overview of Solid Waste Management Plan



- 20-Year Solid Waste Management Plan: a blueprint for environmental sustainability improvements. The plan, adopted on June 12, 2004 was based on the recommendations of the Solid Waste Committee and includes important solid waste goals to help achieve environmental sustainability.
- The SWMP also serves as a guide for the future growth of the County's solid waste management system, which includes:
 - The waste-to-energy plant that converts waste collected in Arlington and the City of Alexandria into electricity,
 - Recycling requirements for businesses and multi-family dwellings in the county,
 - Refuse and recycling collection services for all single-family and duplex residences,
 - Waste reduction programs (backyard composting, etc.).



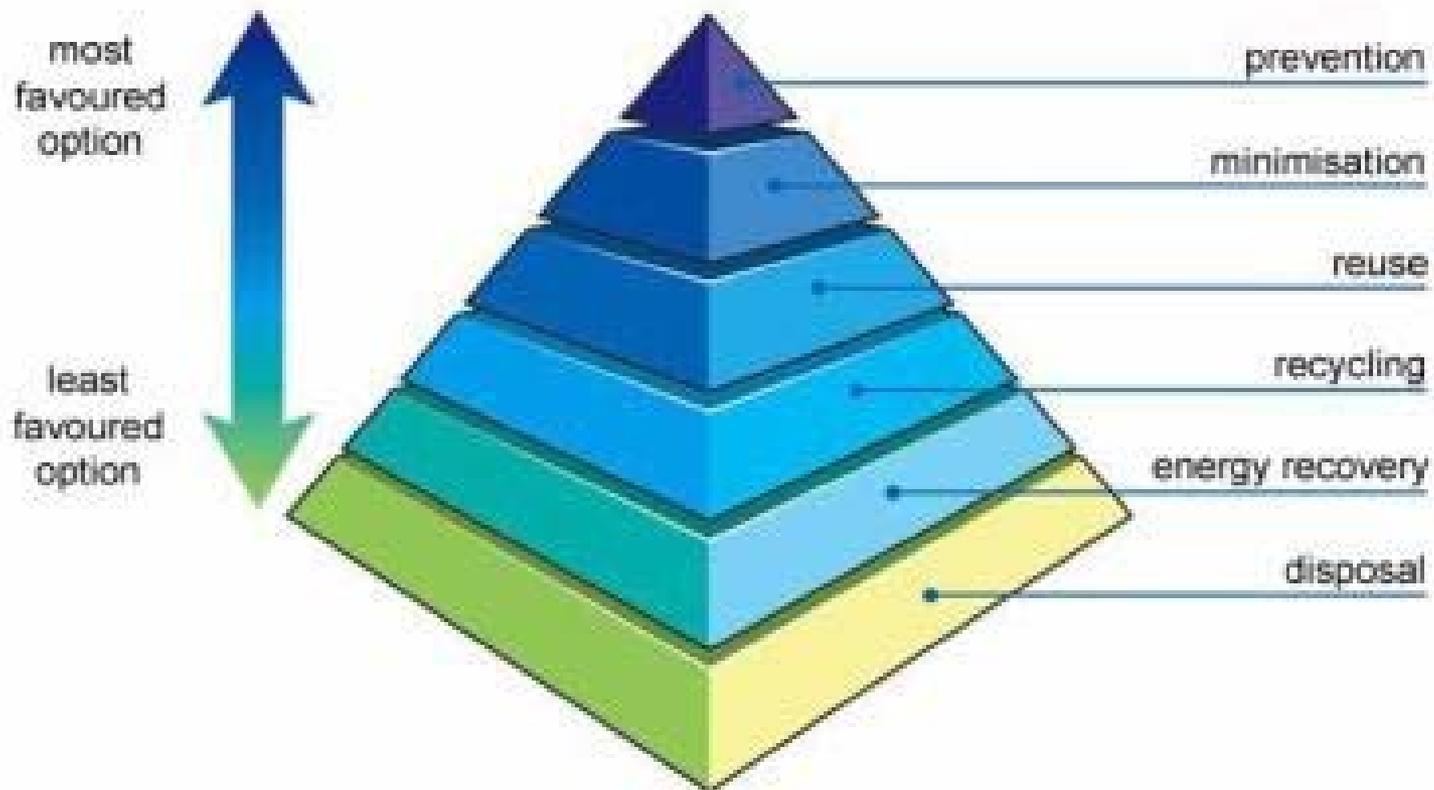
Voluntary Goals



- **Goal A:** Employ a comprehensive solid waste management system that considers the Commonwealth's hierarchy.
- **Goal B:** Ensure that the County implements a strong recycling program and that the County recycling rate, at a minimum, meets the commonwealth's recycling goals.
- **Goal C:** Carefully evaluate the waste management needs of the County for the next 20 years and identify the actions necessary to meet those needs.
- **Goal D:** Develop new funding strategies for solid waste management programs that equitably allocate the cost of programs and use rate- and taxpayer money wisely and efficiently.
- **Goal E:** Expand capacity for planning for solid waste management, including improving information and data collection on waste generation and management.
- **Goal F:** Provide high quality customer service.
- **Goal G:** Increase citizen involvement in the County's solid waste management system.



Hierarchy of Integrated Solid Waste Management





Solid Waste Bureau

4300 S. 29th St
703-228-6570

Recycling Centers

530 N. Quincy Street

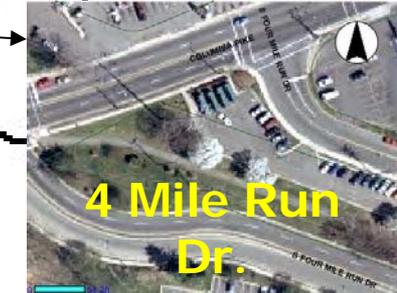
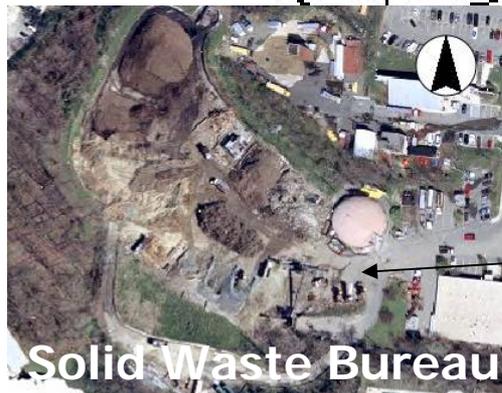
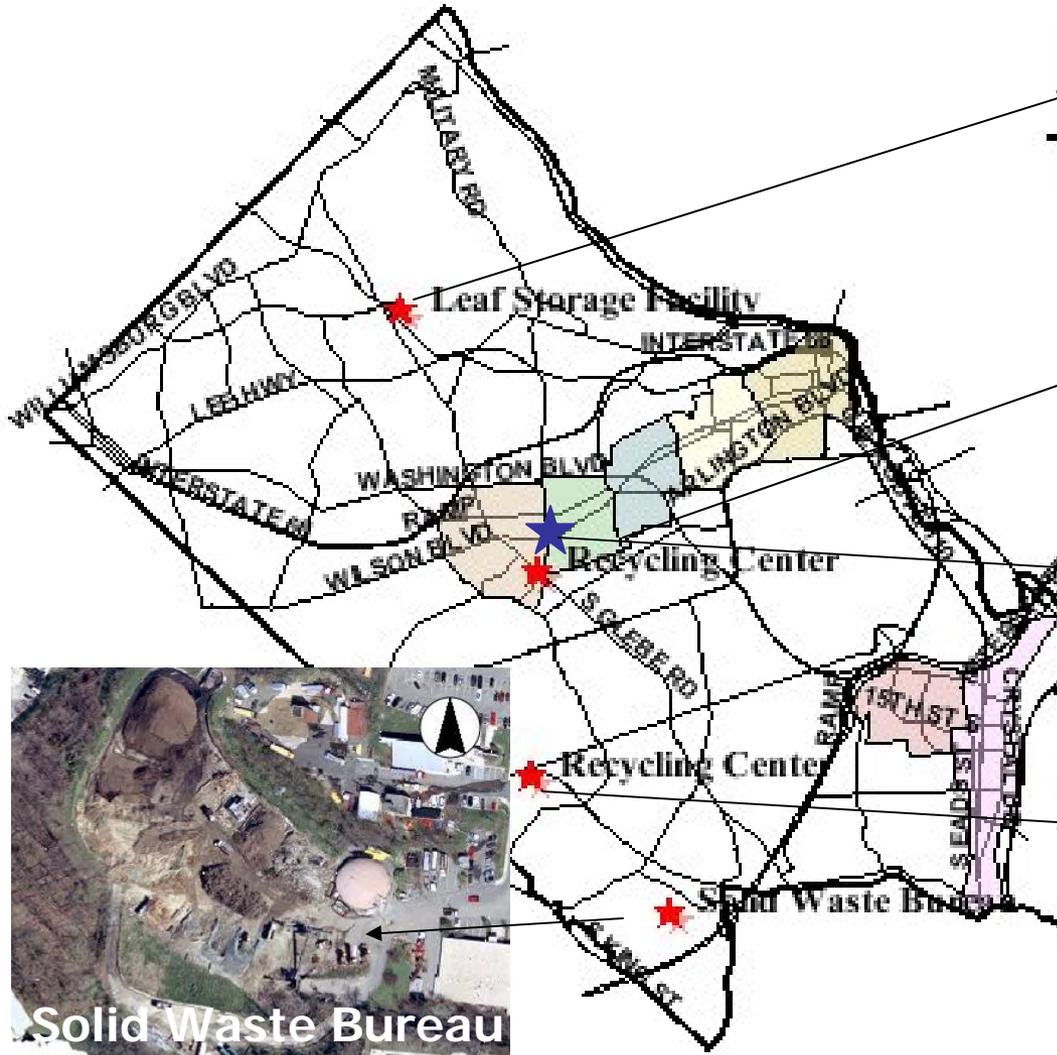
(Quincy Park as of 1-31-09)

&

S. Four Mile Run Dr. & Columbia Pike

26th St. Leaf Storage Site

N. 26th St.



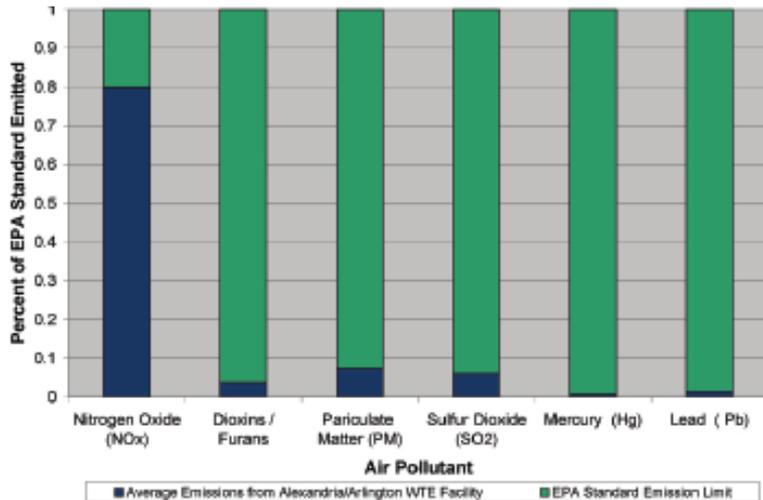


Waste to Energy Facility (WTE)



Air Emissions are well below EPA standards

- **Goal:** To efficiently and cost effectively manage solid waste generated within the jurisdictions in a way that minimizes environmental impacts on the land, air, and water.
- Jointly owned by Arlington County and the City of Alexandria
- Produces enough electricity to meet the energy needs of approximately **23,000** homes
- The plant generates renewable energy that is sold to Virginia Dominion Power





Material Recovery Facility (MRF)



- Technology has improved and now more MRFs are accepting single stream recycling, including Capitol Fiber, Inc. the MRF Arlington County processes recycling
- Waste Management opened a single stream MRF in Elkridge, MD in 2007
 - It can now process #1-7s, such as the famous yogurt cup
 - 97% of the processed materials is recyclable and 3% is waste





Earth Products Recycling Yard



- Recycle all organic materials in a closed loop system
 - Leaves into leaf mulch
 - Brush into wood mulch
- Recycle and reuse as much inorganic material as possible
 - Dirt into clean dirt/topsoil
 - Concrete/Asphalt/brick into aggregate





Arlington Facts and Figures



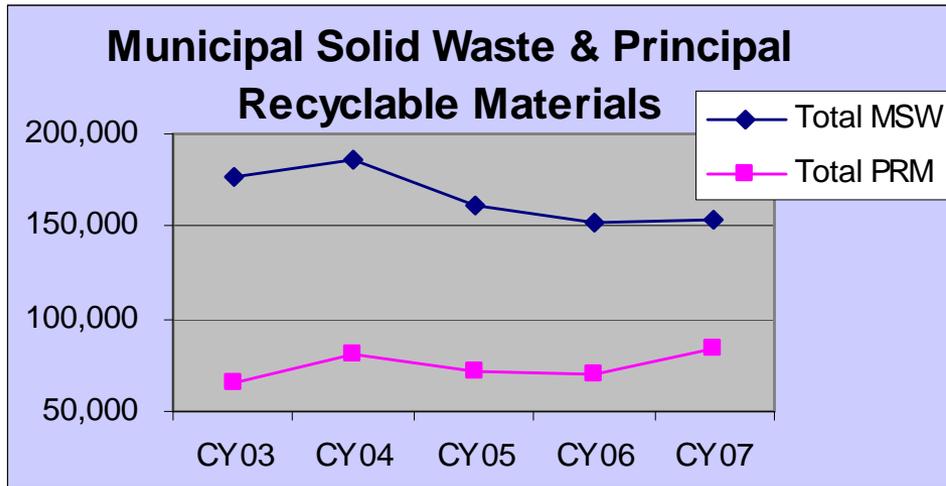
- Population of 204,800
 - 64% of residents live in apartments or condos
 - Approximately 75,000 residents served by the residential collection programs
- Commercial and multi-family sector generates 70-75% of all solid waste produced in the County
- MSW disposed- 152,248 tons
- Principal & Supplemental Recyclable materials- 104,787 tons
- CY 2007 Recycling Rate- 40.3%





Recycling Rate Breakdown

VA DEQ CY 2007 Report



MTCO2E Reduction of 8,384 MT
 CY 2000- reduction of -31,617 MTCO2E
 CY 2007- reduction of -40,001 MTCO2E
 EPA WARM (Waste Reduction Model)

Arlington Counties CY07
 Recycling Rate = **40.3%**

- The MSW declines with a slight (0.4%) increase in CY07
- Arlington's population grew 1% in CY07
- Virginia's statewide CY07 Recycling Rate = 38.5%
- SWB goal of 37% for all sectors by 2014

Recycling Rate By Sector					
Sector	CY03	CY04	CY05	CY06	CY07
Residential	34.3%	34.8%	36.6%	37.3%	41.3%
Multi-Family/ Commercial	24.2%	28.8%	28.5%	30.0%	33.6%
Total County	31.1%	33.9%	40.4%	42.9%	*40.3%



Fresh AIRE



Fresh AIRE Arlington Initiative to Reduce Emissions Arlington County, Virginia



Businesses and Residents: Three areas of opportunity



- Energy
- Transportation
- Waste Reduction



County Commitments 2007



- Cut energy use in County buildings by 2% per year through improved energy efficiency
- Plant 1,200+ trees
- Solar projects on County facilities
- Distribute 2,000+ CFLs
- 20 free home energy audits
- Buy more wind power
- New county green building policy
- Renewed emphasis on recycling



Residential Programs



- Trash collection
- Recycling collection
- Brush collection
- Metal collection
- Spring yard waste
- Car Battery Collection
- Leaf Collection
- Mulch (as available)

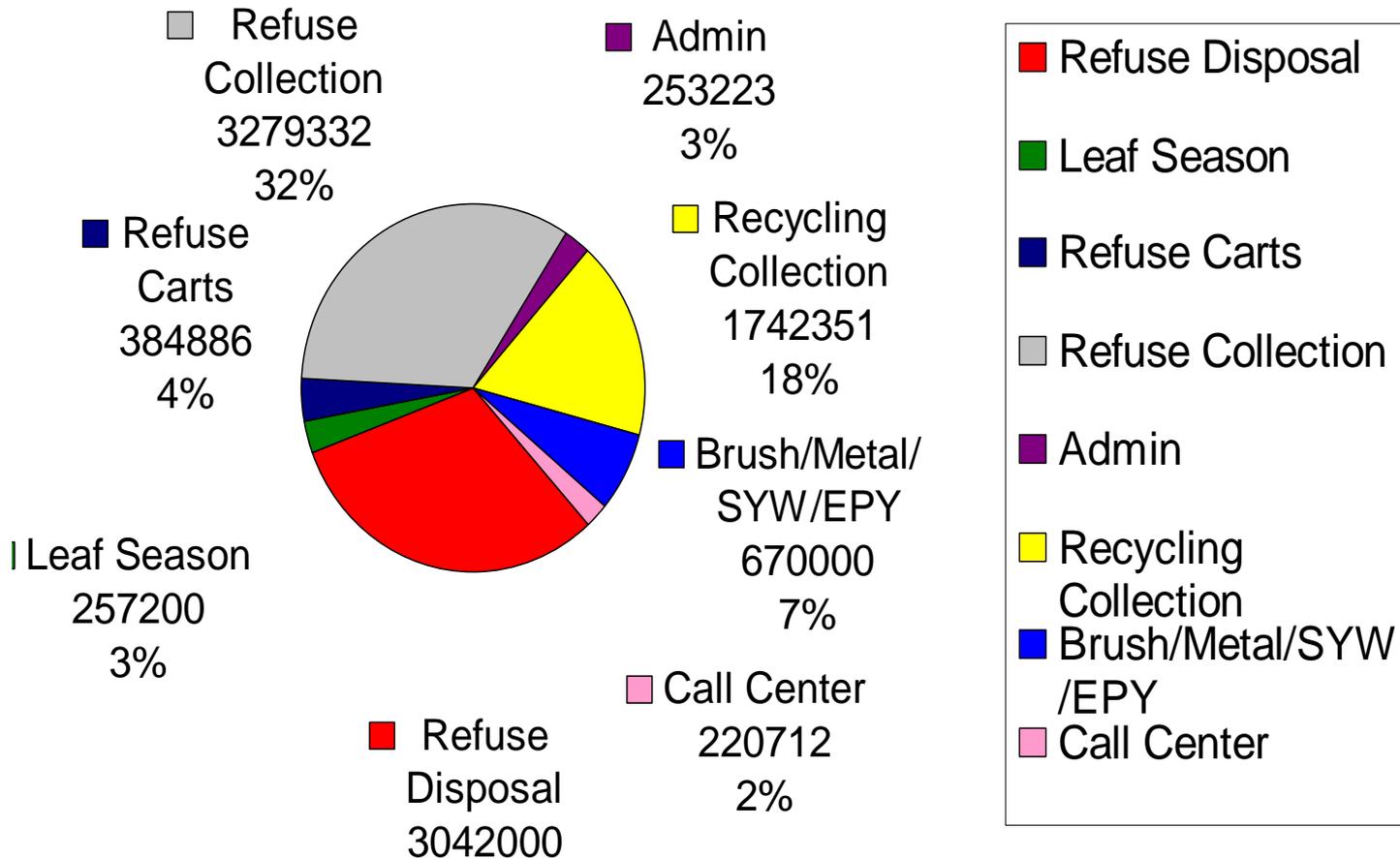




HSWR Breakdown



HSWR = \$306.56 Annually

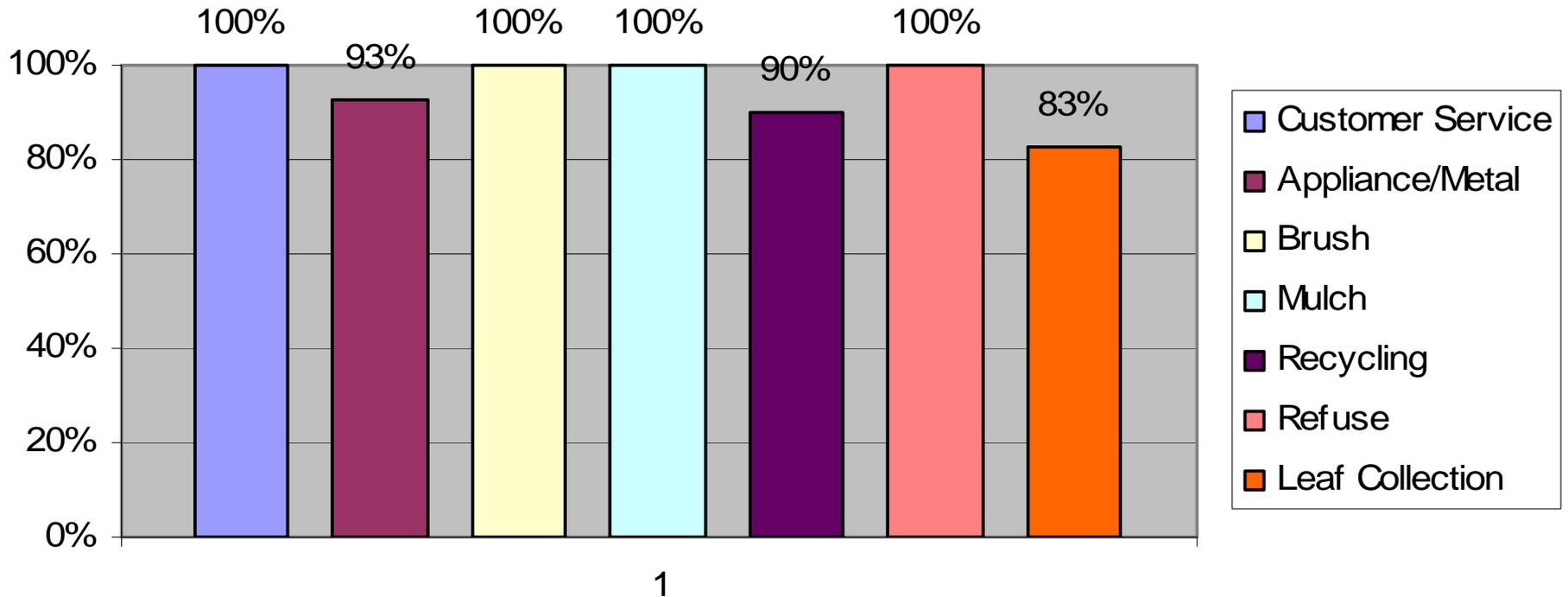




Program Surveys



December 2008 Survey





Reuse, Recycling, and Curbside Recycling Potential



Waste Audit 2008 Average			
Recycling and Reuse	32%	<i>Brush</i>	7%
		<i>Concrete, rocks, leaves, computers, and cleaners</i>	4%
		<i>Grass, plants, dirt (grasscycling and composting)</i>	19%
		<i>Clothing and linens</i>	2%
Curbside Recycling	26%	<i>Newspaper, magazines, cardboard, mixed paper, aluminum cans,</i>	26%
Total	58%	<i>All reusable and recyclable materials</i>	58%



Measuring the Recycling Participation & the Fullness of Refuse Carts



Average Participation Rate = 61%

Percent of Cart Capacity Filled*						
Fullness Measures	25%	50%	75%	100%	100% + 25%	100% + 50%
Average	14%	31%	14.5%	39%	0.5%	1%

*This only includes July and October data



45% of trash carts were 1/2 full or less



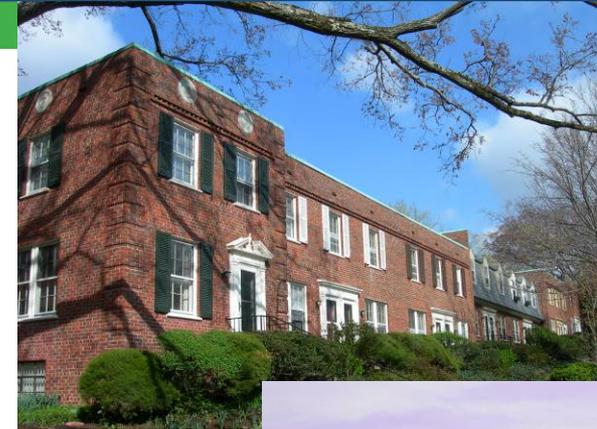
55% of trash carts were more than 1/2 full



Commercial/Multi-family Programs



- Mandatory recycling for all MF/CM properties
- Plans required every 3 years
- Recent Study - recommendations
 - Strengthen reporting requirements
 - Better education
 - Increased monitoring
 - Expanded hauler licensing requirements





SAVR Business & Multi-Family Awards Program



"Saving Arlington's Valuable Resources"



- Recognize outstanding achievements in recycling, waste reduction, and use of recycled products.
- Award Categories
 - Business, Multi-Family, & Institutions
- Self Nominations
 - 5 categories measure overall recycling performance
- Award Levels
 - Gold, Silver, Bronze
- Awards - Fresh AIRE Award Ceremony, certificate, local media attention, & window decal



- Mixed paper
- Cardboard
- Co-mingled plastic, metal cans and glass
- Small metal items





- Facilities recycling
- School recycling Support
- E-care events
- Special event recycling
- EPY drop off program
- HHW program
- Leaf/Christmas tree Drop off program





On-Street Recycling Pilot



- Columbia Pike On-Street Recycling Pilot Program
 - 8 Victor Stanely recycling containers
 - Placed next to trash cans at bus stops
- Plan to expand to other areas of Arlington
 - Working with the BIDs (Business Improvement Districts)





Debris Management



Arlington County, VA



Debris Management Plan

August, 2006

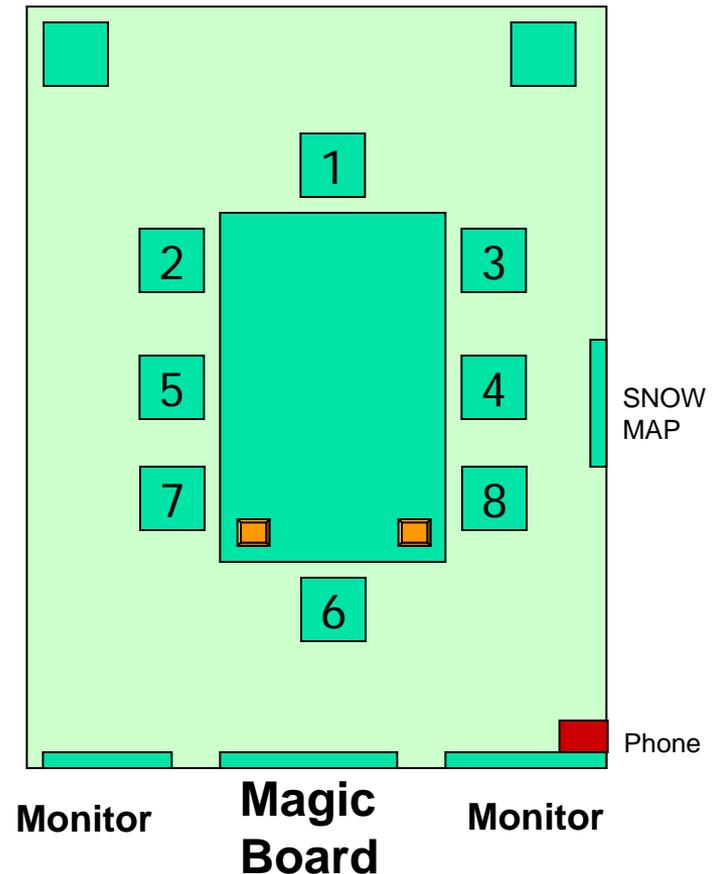


NIMs Compliant

- Debris Operations Center Team (20) are NIMs trained in 100 & 200 level courses

1. Debris Manager/Deputy Debris Manager
2. Debris Operations Coordinator
3. Planner
4. Debris Ops Center Coordinator
5. Resources
6. Communications
7. Clerk-resources
8. Clerk-events

Debris Operations Center



Take it to the curb

Recycling and Trash Collection in Arlington



2008 Blue Pencil and Gold Screen Winners

Most Improved Publication
First Place
Take It to the Curb
Arlington County DES/Solid Waste Bureau

2008 Spring Yard Waste

Collection begins March 17
Bags available March 7 - April 18



Recycle! It saves energy, money and it's easy!

¡Ahorra energía, dinero, es así de fácil!

Did you know that the average Arlington household throws out 35% of their bottles and cans and 51% of recyclable paper and cardboard? According to the EPA, recycling is one of the most effective ways to reduce greenhouse gas emissions and protect the environment.

ARLINGTON Trash Less. Recycle More.

Request a bin or learn about curbside recycling by visiting www.arlingtonva.us/recycle or calling 703-228-6570.

Recycled 100% post consumer recycled paper

**PLACE IN THE BIN
COLOQUE EN EL CONTENEDOR**
Soda and drink cans
Latas de refresco y bebidas
Plastic bottles 8 quarts with necks only
Botas y jarras de plástico (solo con cuello)

**PLACE IN THE BAG
COLOQUE EN LA BOLSA**
Magazines and catalogs
Revistas y catálogos
Newspapers and junk mail
Papeles y folios publicitarios
Phone books
Directorios telefónicos
Cereal and food boxes (flattened)
Cajas de cereales y alimentos (aplanadas)

Cans

Plastics

Mixed Paper

Place clean, flattened cardboard next to your bin.
No larger than 3 feet by 3 feet



RECYCLE At Your Desk

Cans

Plastics

Mixed Paper

Glass

*This does not include plastic bags and styrofoam

Single Stream Desktop Recycling

environmental

Action Guide

Inside This Guide

- Energy savings for every budget
- Green living content
- The ABCs of compact fluorescent lights
- Arlingtonians making a real difference
- Tips for using less water
- Going green in a condo
- Recycling made easy

Earlier this year, Arlington launched the Fresh AIRE campaign – the Arlington Initiative to Reduce Emissions (details on page 1). The AIRE initiative aims to significantly lower County government carbon dioxide (CO₂) emissions.

But what can individuals do to make a dent in global warming? This guide provides tips and information on reducing energy in your home, green building, transit options, recycling and more. Plus, find out what some Arlingtonians are already doing.

Simple Actions Make a Difference

Changing just one action that becomes a new habit can become powerful over time. And if one person's action influences friends, neighbors and coworkers, the impact multiplies.

ACTION

Drive one day less a week

Recycle all bottles and cans

Fix one leak

ENVIRONMENTAL IMPACT

Helps reduce the Chesapeake Bay's 20 percent of excess nitrogen, which causes blue-green algal blooms.

Recycling one aluminum can saves enough energy to run a TV for three hours. 20 aluminum cans can be made from recycled aluminum with the energy used to make one can.

Conserves water and saves money. One leaky toilet wastes 100 gallons of water a month (in a 200-gallon tank).



Get an energy audit. This important step is all of the recommendations. This year, the County will support at least 20 demonstration home energy audits. To apply for a free energy audit, visit www.arlingtonva.us/aire.

Outreach Efforts

GOLD - 2010
SILVER - 2009
BRONZE - 2008

Saving Arlington's Valuable Resources
SAVR
Recognition Program

Arlington County Recycling Bins

Here are some examples of the recycling containers used for events in Arlington County.

Clear Stream - Bottles & Cans

Bottles & Cans or Paper

Bottles & Cans

Recycling Bins Can Be Provided For Your Special Event Through Solid Waste Bureau 703.228.6488

GUIDE FOR PROPERTY MANAGERS

Recycling for Apartments and Condominiums

ARLINGTON VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES

Ready. Rake. Recycle.

2008 Leaf Collection and Recycling Begins
NOVEMBER 17

ARLINGTON VIRGINIA DEPARTMENT OF ENVIRONMENTAL SERVICES

ARLINGTON Trash Less. Recycle More.

PLACE IN THE BIN

- Soda and drink cans
- Plastic bottles & jugs (▲ and ▲ with a neck only)
- Glass bottles and jars
- Metal food cans

PLACE IN THE BAG

- Magazines and catalogs
- Newspapers and junk mail
- Phone books
- Cereal and food boxes (flattened)

Place clean, flattened cardboard next to your bin.
no larger than 3 feet by 3 feet

CANNOT RECYCLE

- Yogurt cups and plastic tubs
- Frozen food boxes and trays
- Aluminum foil and trays
- Deli, salad, fruit and vegetable plastic
- Pizza boxes
- Plastics ▲ to ▲
- Prescription vials
- Alkaline batteries



What is happening to the Recycling Markets?



A slowing global economy is drying up the market for recycled material and driving down the prices. Left, bales of recycled paper and cardboard are piling up at the North Shore Recycled Fibers plant in Salem, Mass.



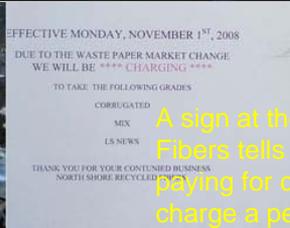
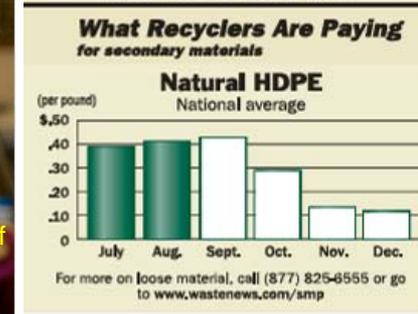
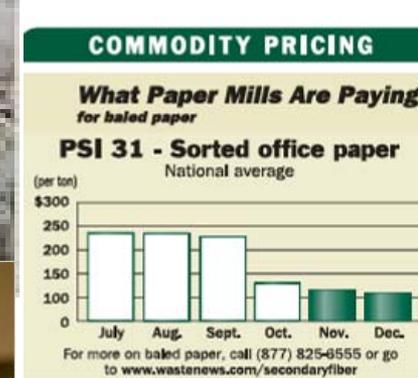
Demand from China, the biggest export market for recyclables from the United States, has virtually stopped. As a result, recycled materials are piling up in the United States.



The North Shore Recycled Fibers plant in Salem, Mass., is close to Boston, which has one of the hardest-hit markets for recycling. Paper prices are down to \$5 a ton, and the city expects that it will soon have to pay recyclers to take its paper.



Some towns are refusing to recycle some material, particularly the less lucrative plastics and metals, and experts say more will probably follow if the prices continue to fall.



A sign at the office of North Shore Recycled Fibers tells clients of a new policy: instead of paying for cardboard, the company will charge a penny a pound to accept it.

Recycle Fibers of New Jersey used to send recycled paper to foreign countries, where it would be made into packing and shipping material. Now, it is just piling up.



FY08 Refuse vs. Recycling Costs



Refuse = \$135/ton

Recycling = \$70/ton

System Savings of Recycling = \$65/ton



Digital Television Conversion- The facts



- On February 17, 2009 analog broadcasting will come to an end
- Why?
 - The decision was made by the FCC to free up parts of the broadcast airwaves for other services like public safety services.
 - Digital television allows the transmission of pictures with higher resolution and better picture and sound quality
 - DTV can provide interactive video and data services that are not possible with analog technology.
- As of 1/1/2008, all U.S. households were eligible to request up to two coupons worth \$40 each, to be used toward the purchase of up to two, digital to analog converter boxes.
- **Will I need a new television?**
After Feb. 17, 2009 **your current TV will not be obsolete**, however you will need a converter box to receive broadcast DTV signals. If you use your analog set with cable or satellite, it will continue to work as it always has. For information about the federal government's plan to assist viewers in acquiring converter boxes, go to:
<http://www.dtv.gov/consumercorner.html#coupon>.



What is the County doing?



- HHM facility at the WPC Plant accepts e-waste (TVs/Computer monitors/electronics)
- Drop off services are available during the week by appointment and every Saturday
 - Call (703) 228-6832 for an appointment
 - The HHM entrance is at 3151 S. Fern St, at the intersection of South Fern Street and South Glebe Road. 3402 S. Glebe Rd.
- Costs to drop off a TV is \$20 and \$15 for a computer monitor
- Record crowd last Saturday 169

Quincy Park – New Drop-off Recycling Center





Curbside Recycling



- Single stream collection- rear compaction loaders
- Single stream processing with more materials accepted, i.e. plastics #1-7, including wide-mouth plastics; plastic bags; and rigid plastics
- Incentive Program
- Detailed recycling information- participation #s
- Advantages
 - Convenience
 - Expanded materials
 - Better information
 - Increased recycling
 - Lower disposal costs
- Disadvantages
 - Less value for commodities
 - Cart costs





Recycled Materials



Recycling YES

PLACE ALL ITEMS IN THE SAME BIN (NO SEPARATION NECESSARY). Rinse out food packaging.



Plastic bottles and jugs #1-7 and lids



Wide-mouth plastic containers



Metal food and beverage containers



Aerosol cans



Glass bottles and jars



Rigid plastics



Bagged plastic film



Gable-top milk and juice cartons



Newspapers and all inserts



Phone books



Mixed paper



Cardboard boxes (unflattened)



Paperboard



All books



Aluminum foil and trays

Recycling NO



Styrofoam packaging



Plastic food trays and cups



Foam take-out containers



"Clam-shell" take-out containers



Paper plates and napkins



Ceramics



Light bulbs



Pots and pans



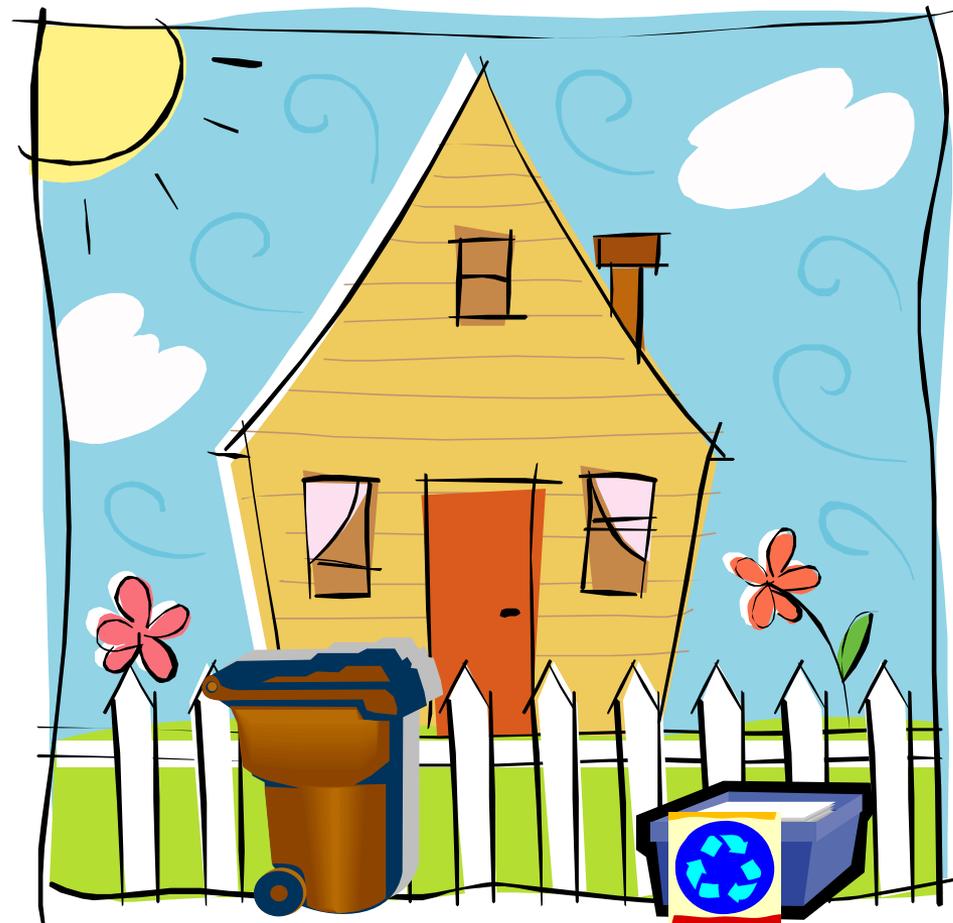
Glass other than bottles and jars



Batteries



Single Stream Recycling





What's Next?



- Expanded MF/CM recycling education efforts
- Waste Audits-continue
- Recycling Participation analysis- outreach
- New Refuse Collection Contracts
- Earth Products Yard Operations Review
- County Code Revisions
- Work w/ BIDs to add on street recycling
- Long term disposal options



The Bottom Line:

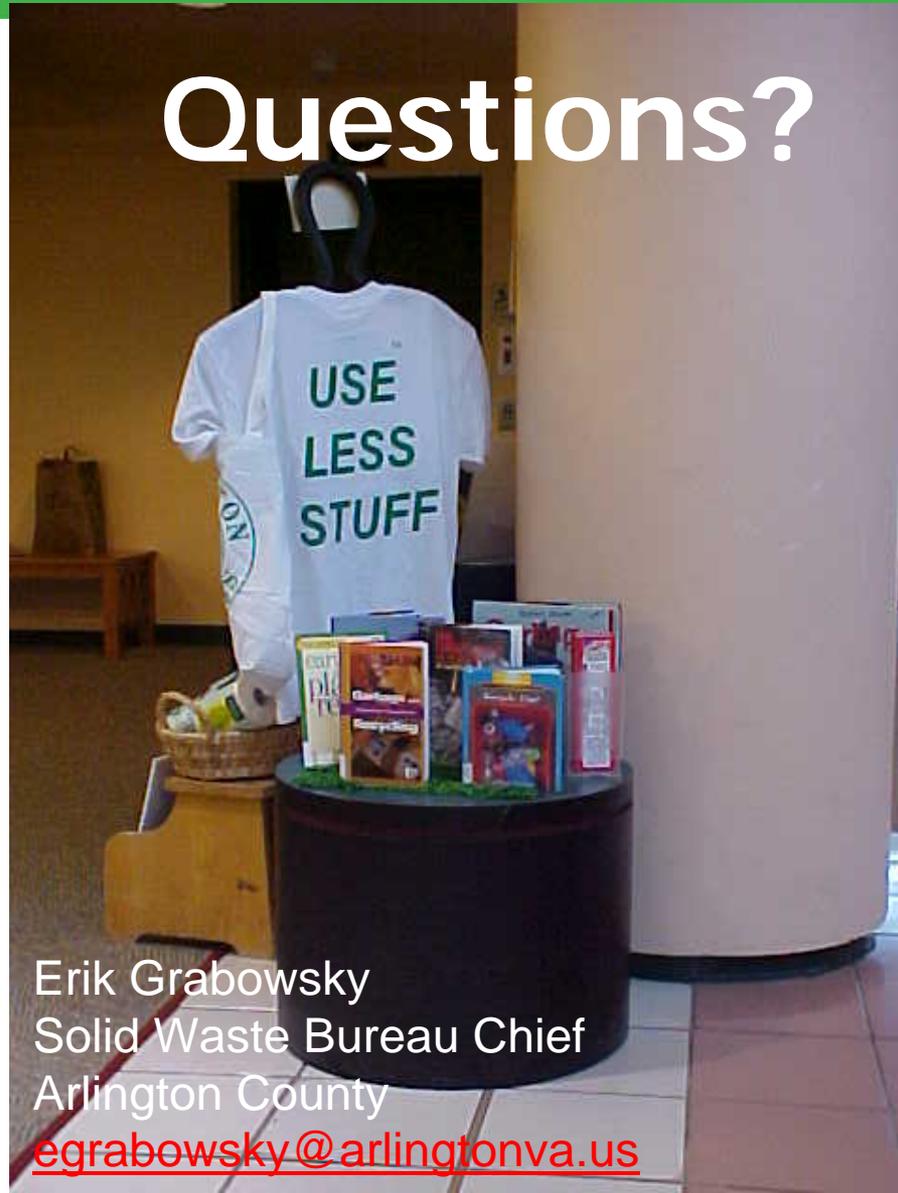
Increased participation
& Increased recycling (diversion)

=

Decreased Cost



Questions?



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