Citizens' Recycling Advisory Committee
Board of Supervisors Report
Recommendations

Submitted:
July 2010

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Mission Statement

The Citizens' Recycling Advisory Committee was created for the purpose of assisting the Board of Supervisors in evaluating options and allocating resources in accordance with a comprehensive, integrated approach to recycling services delivered throughout the county. The committee was charged to provide a recommendation to the Board of Supervisors on resource allocation, as well as new system and program development and alterations to existing programs.

Member Listing

Board Appointed Members:

Brenda Robinson – Bermuda District, Chair

President and CEO, Environmental Solutions, Inc.; founder of The Sustainability Park, an eco-industrial park dedicated to the promotion of sustainable growth

Robert L. Dunn – Bermuda District, Vice-Chair

Member and past chair, Central Virginia Waste Management Authority; retired DuPont Environmental and Community Affairs manager, thus proponent for sustainable growth and environmental stewardship

Dave Anderson – Midlothian District, Owner of Placemaking PLLC in Midlothian, a sustainability consulting company; a proponent of green development and sustainable living choices

Kathy Hostetler – Midlothian District, past PTA president, Robious Elementary School; proponent for school recycling

Marcia Phillips – Midlothian District, member and current chair, Central Virginia Waste Management Authority; proponent for local recycling programs and environmental stewardship

Erica Trout – Matoaca District, Association Manager, Virginia Recycling Association; proponent for school recycling across the state

Board Appointed Staff:

Charles Dane – Deputy Director, Department of General Services

Kimberly Hynes – Executive Director, Central Virginia Waste Management Authority

Dr. Jeremy Lloyd – Instructional Specialist K-12 Science, Chesterfield County Public Schools

Support Staff:

Howard Heltman – Manager, Division of Waste and Resource Recovery

Jeff Howard – Environmental Manager, Department of General Services

Matt Harris – Senior Budget Analyst, Department of Budget and Management

Cindy Taylor – Learning Consultant, Center for Organizational Excellence

Karen Yuhase – Administrative Analyst, Department of General Services

Bernie Harris – Operations Manager, Central Virginia Waste Management Authority

Executive Summary

The Chesterfield Recycling Advisory Committee (CRAC) was formed and members were appointed by the county's Board of Supervisors to evaluate the effectiveness of the county's recycling programs. The goals were to survey the current practices, determine the value proposition of the services and form forward-looking recommendations for the county's move into the future.

The committee has spent exhaustive hours understanding the programs' structures, the costs associated with the programs and the return on the investments made. Many resources, reports, interviews and observations were used to assimilate data. Due to a very difficult fiscal position, the committee released an interim report for use during the budgeting process with the promise that a more comprehensive report would be released in July 2010.

This final comprehensive report is the culmination of our assignment and a new beginning for building on the FIRST CHOICE community platform used in promoting the quality of life in Chesterfield County.

Our conclusions were that the county did a good job at managing its recycling efforts and had many opportunities to build on the existing foundation. When benchmarking recognized innovative and highly successful programs in localities elsewhere, we found the key factors to success were a strong leadership, a commitment to environmental stewardship and an understanding of the linkage to other aspects of life.

CRAC found that a vibrant recycling program acts as an educational tool for students at their schools, keeps volumes of wastes from the landfills and creates an important source of raw materials that businesses depend upon to manufacture green products. Results both teach the younger generation how to create a sustainable lifestyle and build an economic development opportunity to create sustainable jobs.

As a result of our findings and conclusions, CRAC recommends several programs that offer economic and environmental benefits. First and foremost, we recommend the recycling program

be continued, refined and expanded. Because the budget issues were serious, we recommended a recycling fee be implemented to ensure that recycling continues in Chesterfield. Next, many schools have embraced their own recycling programs. We recommend that these programs be implemented throughout the school system and the county should work with the schools to integrate these programs with the county's programs. These programs, along with other marketing and educational initiatives recommended to the county, are designed to position the county to become one of the innovative communities that demonstrates a strong support to an ENVIRONMENT FIRST lifestyle in a FIRST CHOICE community.

Another important recommendation recognizes that waste collection and recycling programs are linked, and these programs impact air quality as multiple trucks move through neighborhoods daily picking up trash or recycling containers. We have recommended a streamlined process that reduces truck traffic on the streets, wear on the roadways, creates safer neighborhoods and cleaner air. Implementing use of larger recycling containers presented curbside on the same day as trash collection, we believe will improve efficiencies to management of wastes in the county.

Another element of our recommendations verifies that the county has a unique business base that is creating green jobs and reducing wastes. This success identifies an already successful economic development opportunity to create sustainable jobs in the recycling and environmental business sector.

Paramount in reaching our goals will be the commitment of the county leadership. To make no compromise for protecting our environment in a difficult economic climate demonstrates that the county's FIRST CHOICE message is not merely a marketing campaign, but an assurance that our goals as citizens, businesses and government is to protect the environment.

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The CRAC team wishes to express our appreciation to the county government officials, the Board of Supervisors and the citizens for the opportunity to be a part of making Chesterfield a FIRST CHOICE community to raise families, work and live.

VISION

Chesterfield County is a FIRST CHOICE community and strives to be the best place for businesses to thrive and citizens to live. Providing that FIRST CHOICE environment is not automatic - Chesterfield must "walk the talk" to actively ensure desired outcomes for its citizens. This requires us to continually adapt and make the necessary changes responding to economic, social, and environmental issues that will ensure this quality of life, not only for today, but for generations to come. Sustainability is a critical foundation from which to make these good decisions in the future because it seeks to both create both societal value and reduced environmental impacts in all that we do.

Environmental sustainability is a significant component of ensuring future success. Chesterfield strives to be a responsible leader and problem-solver in this arena, not just one of the pack following the latest trends. The way in which we use and protect our vital resources will have a significant impact on how well we sustain our high quality of life. As we grow in population as a county, our environmental footprint will grow and result in new challenges. Reduction of that footprint is a key priority for both the citizens of our county and its government. In all that we do as a citizenry, we must ask what impact we make environmentally in every decision.

Recycling and resource use programs are and will be important tools to improving the environmental footprint of our county. A sustained proactive effort, led by the county government, will provide not only physical improvements through reduced waste creation, but will also provide valuable educational opportunities for citizens to understand how they make a difference in making the county a FIRST CHOICE community through wise decisions that impact them close to home.

The Vision for Chesterfield's recycling programs, and the resulting recommendations found in this report, seeks to provide a road map to the long-term goals of waste reduction, air and water quality improvements, and heightened awareness of the citizens and businesses as to how they play a role in achieving environmental success. Citizens, seeking to know how localities differ so that they can make wise living choices, will recognize this Vision as an indicator of Chesterfield's commitment to long-term success and value creation. Businesses, looking for high

quality of life options for their employees, will recognize Chesterfield as a leader that seeks to help maximize economic value through the foundation of sustainable economic development. And when needed, this Vision will also provide an important tether to these goals when fiscal priorities may present challenges such as annual budget constraints.

Used as one of the county's core values, it is intended that this Vision will catalyze future generations of healthy recycling and waste reduction programs, and provide a footing for other improvements to help keep Chesterfield County as a leader in being an environmentally FIRST CHOICE community.

Guiding Principles

1. A successful recycling program should be easy for citizens to use.

2. Communication and education of the public are essential to a successful program with emphasis on the benefits of the program.

3. A viable and effective program must be financially efficient.

4. A key program element should include an incentive focus for the users.

5. The county must provide leadership by having a comprehensive recycling program as a core element of how the county does business.

6. A successful recycling program requires consistency, uniformity, and sustainability.

Methodology

1. Obtain and understand existing recycling programs in the county, to include program ownership, participation levels, costs and any other information deemed pertinent by the committee.
2. Research other program options or alternatives.
3. Benchmark program data to include type, participation, and costs.
4. Develop and submit recommendations to the Board of Supervisors on or prior to July, 2010.

Objectives

1. The county recycling program does not consist solely of the curbside recycling program. It includes county drop-off centers, school PTA sites, convenience center recycling of goods and products not included in the CVWMA programs, and some recycling in county facilities such as libraries and parks. These programs must be viewed as a system, not individually. Synergies and complementary services must be considered to strengthen the overall recycling programs, and duplications or ineffective components having no real benefits should be reduced or eliminated. The committee needs to determine the best means of accomplishing a successful program in the most cost effective manner possible.

2. There is abundant evidence that the existing curbside program is not functioning optimally; therefore, it needs to be scrutinized closely to determine if increased efficiencies and effectiveness can be identified and implemented. Participation rates and the overall cost of the programs are two areas of particular concern. Further, if alternative program choices are available, they too should be examined to determine the best overall method or methods for Chesterfield County.

3. The cost of the program is of concern, and other options need to be examined to determine if the existing program can be improved upon or changed to generate savings, while not adversely affecting the overall results or recycling in Chesterfield.

4. Setout rates and participation rates are not at a level that is considered acceptable with the tremendous financial investment being made by the county. Ways to increase participation need to be considered and developed.

5. Technologies and recycling markets have changed through the life of the existing programs, and those factors could be having a negative impact on the success of the program. These considerations need to be studied to assure we are using the best practices, and that we are not utilizing a service method simply because that is how it is currently provided.

6. The committee should have a recommendation for FY2011 submitted to the Board not later than July, 2010.

Introduction & Findings

The Committee was asked to understand, research, and evaluate the county's existing recycling programs in order to make recommendations to the Board of Supervisors on how to ensure Chesterfield's recycling programs are efficient and organized. The committee's research is comprised of the following reports:

- Existing recycling programs in Chesterfield County
- Existing trash collection programs in Chesterfield County
- Demographic Study by Dr. J. Clifford Fox
- Best practices across the United States

Existing Recycling Programs in Chesterfield County

Chesterfield offers a variety of residential recycling programs that include bi-weekly curbside pick-up of recyclables and two drop-off locations at county-operated convenience centers. The county is a member of the Central Virginia Waste Management Authority (CVWMA), a public service authority that implements solid waste management and recycling programs for thirteen local governments.

Chesterfield's Department of General Services Environmental Division contracts with CVWMA to provide the following recycling services.

Chesterfield supervises the contracts for the following recycling services which are offered at the county's two convenience centers:

Curbside Recycling

The county's largest recycling program is curbside recycling, which is available to approximately 95,000 homes throughout the county. This program allows residents to recycle many items, including newspapers, corrugated cardboard, office paper, cereal boxes, aluminum cans, steel cans, glass bottles and jars, #1 and #2 narrow neck plastic bottles, magazines and other mixed paper. These materials are collected bi-weekly by Tidewater Fiber Corp. under contract with the Central Virginia Waste Management Authority. Each home in the program is provided with one eighteen (18) or twenty-four (24) gallon bin in which to place the recyclable items. Residents may also use additional bins of their own choosing and place a recycling sticker on the bin, provided by the CVWMA.

The average bi-weekly set-out rate for the program is 38% with an average weight per set-out of approximately 27 lbs. However, data shows that a minimum of 54% of county residents utilize the program. Staff believes that the actual overall usage is considerably higher than the 54%. Some neighborhood participation rates are as high as 80%.

Education and Outreach: Education and outreach of the curbside recycling program is administered by the CVWMA. Each locality that participates in curbside pays $0.14 ($0.12 in FY 2011) per eligible household per month for Public Education and Customer Service. The CVWMA Education Committee, represented by each locality, meets quarterly to review the

educational component, review effectiveness, and recommend any changes to the programs or materials.

Currently, the predominant way Chesterfield County residents hear about recycling is through the annual collection schedule postcard from CVWMA. 90% of respondents in a CVWMA survey report keeping the postcard handy throughout the year. The postcard is mailed in early January informing residents of their bi-weekly schedule and lists materials that are accepted in the curbside program. The number of calls to the CVWMA call center and hits to the CVWMA website typically spike in January and early February, as well as a significant increase in bin deliveries and requests for information about the program. This implies that the postcard is an effective means of communication for residents regarding the program. Residents can also sign up to receive an email notification two days prior to their collection day and they can visit the CVWMA website to gain more information. The CVWMA also operates a call center to answer residents' questions, and participates in school, civic and other events and provides presentations to many groups during the year. Public service announcements and advertisements have been run on TV, radio, cable stations, newspaper and online and the CVWMA is now on Facebook and other social media in an effort to increase awareness of the curbside recycling program. The CVWMA has also developed several publications including a curbside brochure, information on alternate containers, stickers for placement on alternate containers, and coloring and activity books for children.

Cost: The county will pay the CVWMA over 2 million dollars in FY 10 for this program. This includes the cost of collection, a public education assessment, and a customer service assessment. The county received approximately $60,000 (FY 2009) in revenue from the sale of these recycled materials to third-party vendors.

On April 14, 2010 the Board of Supervisors created a $25 recycling fee that will be billed through the semi-annual real estate tax bills. In FY 2011 residents will have the option to opt out of the curbside recycling program and have the $25 recycling fee taken off of their real estate tax bill.

Material Collected: In FY 09 13,600 tons of material were collected in the county at a cost of approximately $139 per ton.

Drop-Off Recycling

The county also offers drop-off recycling to all county residents. Many of the residents who use the drop-off program are those not eligible for curbside collection due to living in apartments or condominiums. One site is located at the Southern Area Convenience Center (SACC) on Landfill Drive and the other site is located at the Northern Area Convenience Center (NACC) on Warbro Road. These drop-off sites accept the same materials as the curbside recycling program. An additional, and smaller, site is located at Rockwood Park and is available to park users and residents of the Bexley community. This program is also offered under contract by the CVWMA and the program's costs are paid from the general tax fund.

At one time the county had 7 drop-off locations around the county but these were gradually removed as the curbside recycling program was expanded. In addition, it was determined that the drop-off containers should be placed on county property whenever possible to reduce the insurance liability to the county. It was further decided that in order to avoid unsightly messes at the drop-off sites they were better suited to staffed locations.

Cost: In FY 09 this program cost approximately $42,000 or almost $37 per ton. The county received revenue of $250.

Material Collected: In FY 09, 1,131 tons of materials were collected in this program.

Convenience Center Recycling

There are also a number of items that can be recycled at the two convenience centers. Some of the programs at the convenience centers utilize CVWMA programs and others are contracted directly by the county. The convenience centers handle residential recycling and waste only. The Virginia DEQ permit by rule regulations do not allow commercial waste into the county facility.

Some of the items can be dropped off by residents at no cost and others have a minimal fee as listed below. Following is a list of the items and the charge if any:

1. Old newspaper – No Charge (N/C)
2. Old corrugated cardboard – N/C
3. Appliances:
    a. Refrigerators - $15
    b. Freezers - $15
    c. Air conditioners - $15
    d. Stoves, washers, dryers, hot water tanks – $10

4. Scrap metal – N/C
5. Lead-acid batteries – N/C
6. Nickel cadmium and lithium batteries – N/C
7. Electronics with trash– N/C, without trash – gate fee
8. Used oil, oil filters, and anti-freeze – N/C
9. Household hazardous chemicals – N/C
10. Tires - $2 - $10 depending on size of tire
11. Used clothing and shoes – N/C
12. Yard waste and leaves - $8 and up depending on size of load. Mulch that is derived from the processed yard waste is available to county residents at no charge.

13. Too Good To Waste Program – items for reuse by other residents – N/C
14. Propane tanks – N/C
15. Barbecue grills – N/C

Cost: The county paid $99,700 for these program and received $174,480 in revenue.

Material Collected: In FY 09 approximately 1,235 tons of materials were collected in these programs.

Administrative Offices, School and Library Recycling

Chesterfield County has a current contract with Southeast Paper Recycling Company for recycling containers at the Administration Complex, Buildings & Grounds Warehouse, schools, and several libraries (Central, Chester, Clover Hill, Midlothian, and Bon Air). There is no charge for containers or service. New locations added to the contract are for recycling of white, mixed, and newspaper only. Schools that were originally set up with paper and aluminum containers still pick up both. Participating locations receive up to $30.00 per ton from SP Recycling for paper collected, with a floor price of $5.00 per ton. Recycling containers at some of these locations are open and used by county residents; however, there are mixed responses and no data available to determine whether this use is widespread.

While the contract with SP Recycling Company allows for the placement of containers at every school, not every school participates in the program. 32 of 38 elementary schools currently have some sort of recycling program. 12 of 14 middle schools and 8 of 12 high schools have some recycling program.

Individual CCPS schools have implemented various other recycling initiatives including printer and toner cartridges, cell phones, juice pouches and yogurt cups, bottle caps, batteries, electronics, crayons, blue jeans, tennis shoes, and compostable material.

Cost to the County: $0

Material Collected: As each location is treated as a separate vendor for payment under the contract, SP Recycling does not have the data compiled which would determine the annual amount collected.

Individual School Contracts

Some CCPS schools have independently contracted with Tidewater Fiber Corporation (TFC Recycling) for single-stream (commingled) recycling containers. Single-stream recycling allows for paper, aluminum, bottles, and plastic to all be recycled using the same collection container. This is equivalent to the Chesterfield curbside recycling program. The cost to TFC Recycling for single-stream recycling is $63.00/month for weekly pick-up or $55.00/month for bi-weekly pick-up. The service is paid for by the PTA at Robious, Watkins, Weaver, Woolridge Elementary Schools, and Robious Middle School. Three high schools currently contract this service directly: James River, Manchester, and Midlothian High Schools. These schools also have initiated numerous additional recycling programs, as mentioned above (cell phones, crayons, juice pouches, etc.)

Cost to the County: $0

Material Collected: Unknown

Parks & Recreation Recycling

Increasingly, the Parks and Recreation Department is introducing recycling to the county's parks and sports complexes. Rockwood Park, Harry Daniels Park at Ironbridge, Dodd Park at Point of Rocks, the Warbro Baseball Complex, Robious Sports Complex, the Bird Baseball Complex, and the Fair Grounds all have Co-Mix containers which accept the same materials as in the curbside collection program. The Parks Maintenance Shop also recycles old corrugated cardboard and scrap metal. With the exception of the containers in Rockwood Park and Robious Sports Complex, which are open to the public, these containers are used by park personnel.

Small recycling cans/bags are placed throughout the park and park maintenance crews collect the material from the small containers and place it in the larger containers located in their maintenance areas at each of the listed parks.

Cost: $1,800 with revenue of approximately $45.

Material Collected: In FY 09 the parks collected approximately 6 tons of material.

County Internal Recycling

Chesterfield County also provides recycling to county offices and facilities. The Office of Environmental Management provides recycling of computers and CFL bulbs. Fleet Management recycles scrap metal, tires, old hoses and belts, and used oil. Building and Grounds recycles plastic bottles, aluminum cans, old corrugated cardboard, and fluorescent lights.

Cost: In FY 09 the county paid approximately $17,000 for internal recycling.

Material Collected: The county collected 72.5 tons of material in FY09

Business Recycling

The county does not provide recycling for businesses. As noted above, the Virginia DEQ permit does not allow commercial waste into the county convenience centers. Businesses can contract these services on their own or perform them internally. According to an informal poll, approximately 900 businesses and industries have contracted for recycling. As with residential recycling, there are no mandates that require businesses to recycle or incentives to encourage them to do so, rather they do so because it is the right thing to do.

FY 09 Recycling Cost Summary

	Cost	Materials Collected (tons)
Curbside	$1,893,629	13,958
Drop-off	53,394	545
Convenience Centers (Additional Materials)	(74,780)	1,235
Admin., Schools, Libraries	0	Unknown
Individual School Contracts	0	Unknown
Parks & Rec.	1,538	6
Additional County Departments	16,846	72.5

Existing Trash Collection Programs in Chesterfield County

Trash Convenience Centers

The county operates two convenience centers for household refuse disposal, at the same location where the recycling containers are located. These services are provided for county residents only. The two facilities are open seven days a week; however, due to budget cuts, starting July 1, the number of days will be reduced to five. The sites accept waste generated from residential homes**,** including household waste, construction/demolition debris, brush and yard waste and bulky waste. The residents are charged $8 per car load.

Cost: $1,109,514

Materials Collected: FY 09 tonnage 25,583

Curbside Trash Collection

There is no definitive data on the number of haulers in the county; however, it is estimated that approximately 30 companies provide curbside trash collection to county residents. Residents contract with private trash companies to have waste picked up from their homes, usually using a

96 gallon cart on wheels which they place at the curb weekly for pick up. Residents pay between $15 - $30 per month for private curbside waste collection.

Cost: $0

Materials Collected: Data proprietary

Summary of Demographics Study by Dr. J. Clifford Fox

Dr. J. Clifford Fox and his researchers from Virginia Commonwealth University's Center for Environmental Studies conducted a telephone recycling survey of 1,000 households eligible for curbside recycling in the region in 2009. The telephone survey addressed respondents' recycling participation, socioeconomic level, race and age. The committee used the data from this presentation to evaluate the demographics of the central Virginia area's average recycler.

The results from the survey showed that:

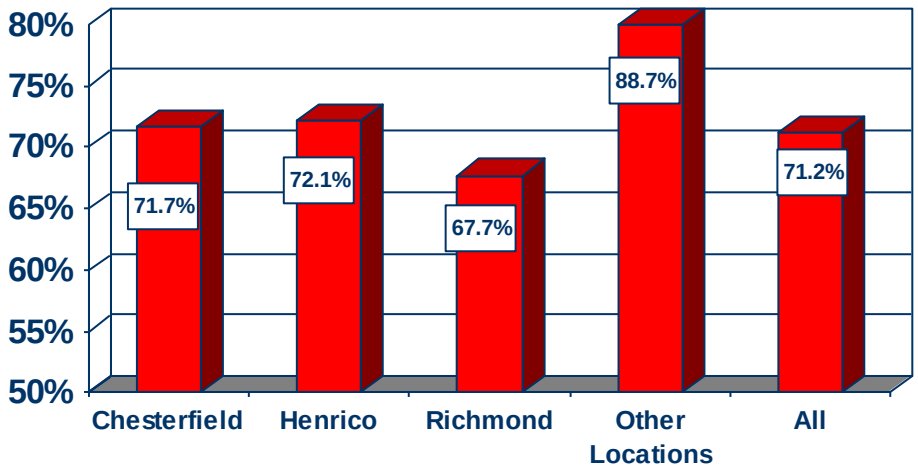
1) Overall recycling participation among Chesterfield respondents was 52% – 75%
2) The strongest recyclers were 45 to 60 year old; low to non-participants were in the 18 to 24 year old age range;
3) Participation was found to be significantly higher in middle-income families;
4) As income increases so does participation.
5) Minority participation was lower.

Participation in Curbside Recycling:

The telephone survey demonstrated a relatively high participation level (71.2%) when participation was defined as "Over the last year, …..someone in your household has put

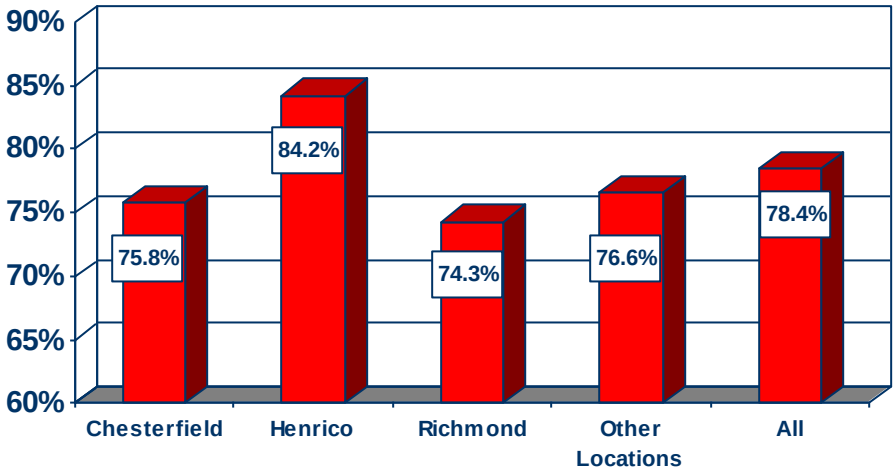
recycling at the curb to be picked up" at least once (see Figure 1). For purposes of this report, households referred to as "participant households" are those who are included in this definition.

Figure 1
Over-all Participation



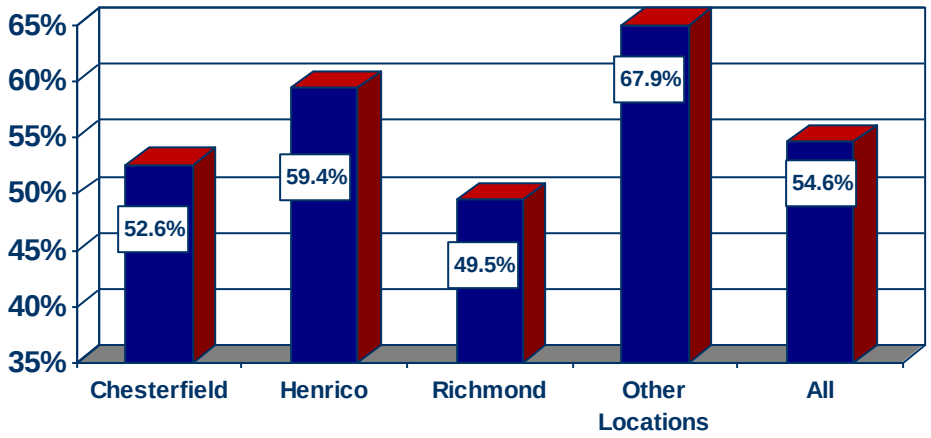
To fully understand the participation rates, the intensity of participation must also be considered. The survey allows us to consider those who answered the participation question "on every scheduled day your family is home." This measure of high participation is shown in Figure 2, below.

Figure 2
Every scheduled day family is at home.
(Percentage of curbside participants)



As can be seen from the above Figure, over three-quarters of those who become participants, become high intensity participants. This translates into a group of households that can be called Loyal Participants. Figure 3 portrays the percentage of households that are characterized as "Loyal Participants," those that participate on their scheduled day every time their family is at home. When one reduces the loyal participant rate by absentee families, this number fits well with the observed set-out rates for the service area.

Figure 3
Loyal Participant Households
(Percentage of all Households)



Participation by Demographics:

Participation may also be considered by certain demographic characteristics. Figures 4, 5 and 6 compare participation by three demographic characteristics — income, age, and race. As Figure 4 indicates, participation is closely related to income. As household income increases, household participation in curbside recycling also increases. This relationship has been seen in other studies and can be very useful for targeting under-participating neighborhoods.

Figure 4
Participation by Household Income

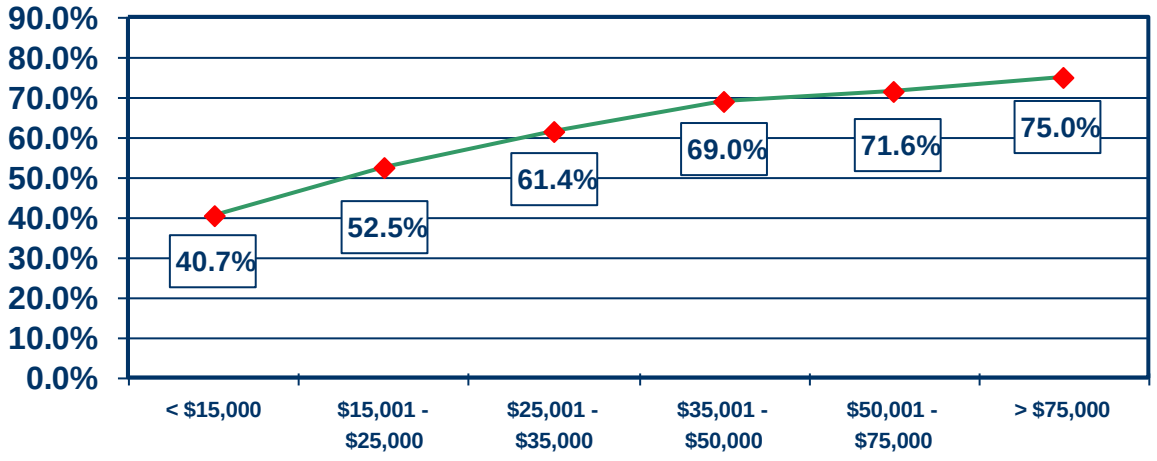
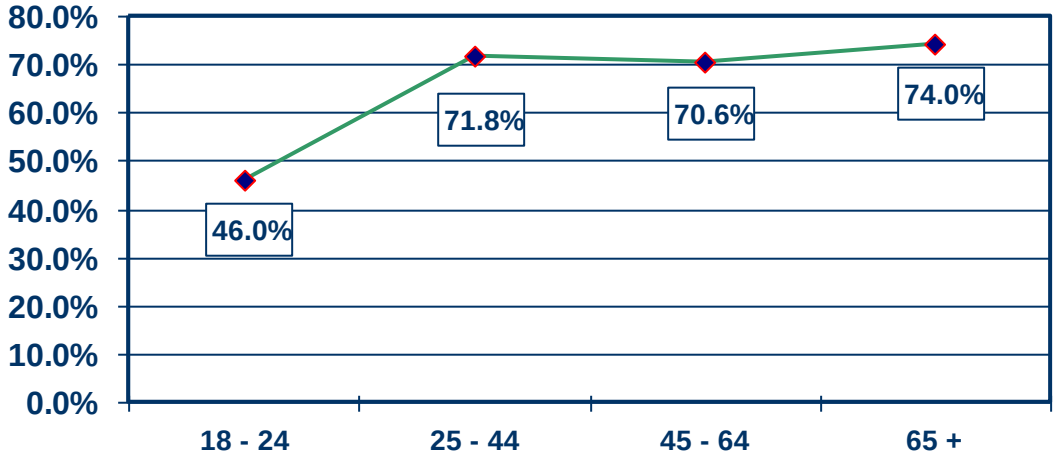


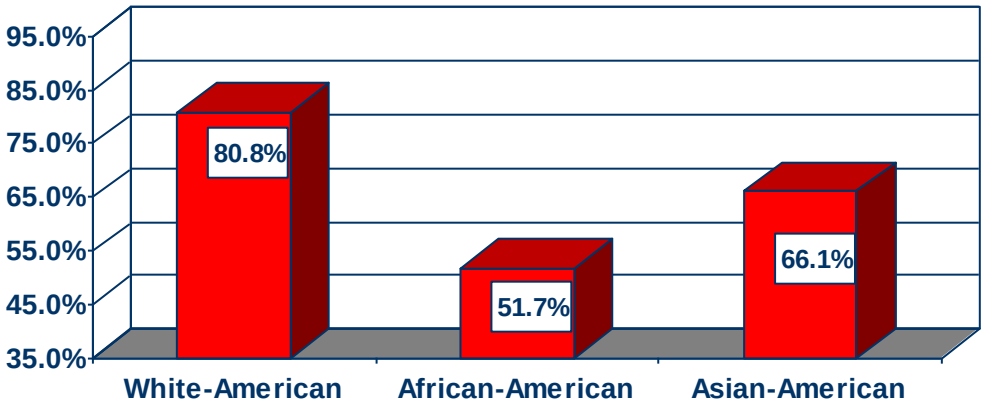
Figure 5 demonstrates a much weaker relationship between participation and age. Most important in this relationship is the low participation in households where 18-24 year old are respondents. Above this age, participation stays relatively the same.

Figure 5
Household Participation by Age



The final demographic to be considered is race. Figure 6 gives the relationship between participation and race.

Figure 6
Household Participation by Race



Participant Information:

Additional information was collected from respondents for participating households, including information on other ways of disposing of recyclable goods, types of materials recycled, rules for recycling as they understood them, and suggestions for improving recycling for them.

The majority of participant households were reported to have disposed of recyclables in some other way in addition to curbside pick-up. Over half of participant households were reported to also use drop-off recycling (56.6%). Almost one-fifth of participant households were also reported to drop off materials at a non-profit donation center such as Goodwill (19.1%). Approximately seven percent each reported composting or plastic bag return. Unfortunately a significant percentage (12.6%) reported also placing recyclables in their regular trash.

With respect to the materials reported as included in the recycling, no surprises were seen. Reports were similar to what is seen on the ground with collections. Paper was mentioned most often, followed by plastic, aluminum, and then glass. Cardboard and magazines were reported separately following glass in frequency of mention.

When asked what rules were required of recycling households, respondents were generally accurate. The most common response was "just put it out at the curb" (64.2%). Only four percent reported a need to separate materials. This is not surprising since these were participant

households. One response does raise some concern with regard to participant knowledge. Almost one-third of the respondents said you should "put it in the bin provided (30.1%). Given the fact that several focus group participants pointed to not having a bin as a reason for not participating, this misinformation should be of some concern. (Current county policy provides one bin per existing household with bins purchased for new residents or if a bin is damaged or stolen. Residents have to provide additional bins if more are needed for capacity.)

Respondents were asked to identify ways that the program could be improved. The most common suggestions involved handling the quantities of materials. The most frequently given suggestion was "More or Bigger Bins" (32%). This was followed by "More Frequent Pick-ups" (28.2%). There were also a number of requests for recycling more types of plastics. These suggestions are in line with those most frequently received by phone and internet, providing support for the effectiveness of these means of customer feed-back.

Non-participant information:

Respondents for non-participant households were also asked several specific questions. The first of these was "Before today, did you know that you can put recycling at the curb to be picked up?" Just over one-third of the respondents for non-participant households reported that they did know that they could recycle by placing materials at the curb (35.4%). This was reinforced by the participant responses when asked what the greatest barrier was to their participation, the most common response was that they "didn't know we could at this location."

When asked the likelihood that their household would participate in curbside recycling in the future, almost one-half (47% between 6 and 10, inclusive, on a ten point scale) reported that their household was more likely than not to participate in the future. See the focus group discussion for more in-depth discussion with members of this category of households.

Beliefs and Attitudes of Respondents:

The full sample of respondents was asked to answer whether they agreed or disagreed with a series of statements about recycling and related environmental issues. Responses to these questions are reported in Table 1, below.

The first two statements reported in Table 1 involve the funding of curbside recycling programs. As can be seen in the responses to the first statement, sixty-six percent of respondents hold the incorrect opinion that "[r]ecycling programs pay all of their costs from the recyclable materials they sell." Moreover, respondents also agree, correctly, with the statement "[t]axes or fees from

my household help to provide curbside recycling in my area." Therefore, respondents appear to believe that despite the program paying for itself from recovered materials, it benefits from tax dollars, which is an inaccurate perception.

Table 1 also demonstrates the effectiveness of the recycling message over the last few decades. Large majorities of respondents agree that "[w]e are running out of landfill space" and that "[w]e are in danger of running out of raw materials." When combined with the over ninety percent agreement that "[i]t makes a difference whether your household recycles or not," it appears that the attitude of the population is favorable to an increase in recycling behaviors if the attitude-behavior gap can be bridged.

TABLE 1

Beliefs and Attitudes on Recycling–related Issues

	Agree (Strongly)	Disagree (Strongly)
Recycling programs pay all of their costs from the recyclable materials they sell.	66.1% (22.8%)	15.8% (6.8%)
Taxes or fees from my household help to provide curbside recycling in my area.	74% (31.3%)	15.6% (6.0%)
Most recycling actually ends up in the landfill.	29.5% (14.0%)	61.7% (32.4%)
We are running out of landfill space.	78.5% (55.5%)	16.4% (7.0%)
It makes a difference whether your household recycles or not.	90.2% (72.5%)	7.3% (4.5%)
We are in danger of running out of natural resources.	78.5% (53.9%)	17.3% (8.7%)

Best Practices across the United States

In order to improve upon the recycling programs that currently exist in Chesterfield County, it was necessary to understand other successful recycling programs. A sub-committee was formed to research the best recycling programs in the country and within Virginia. The sub-committee focused on twelve nationally recognized recycling programs. The following twelve localities were included in the research, with key statistics concerning their programs:

Locality	Same Day Recycling and Trash?	Type of Container Offered	Mandate	Website
Falls Church, VA	Yes	Bin	No	http://www.fallschurchva.gov/Content/Government/Departments/EnvironmentalServices/Recycling.aspx?cnlid=3316
Seattle, WA	Yes	Rolling Cart	Yes	http://www.seattle.gov/util/Services/Recycling/index.asp
Portland, OR	Yes	Rolling Cart	Yes	http://www.portlandonline.com/bps/index.cfm?c=41461
Boston, MA	Yes	Rolling Cart	No	http://www.cityofboston.gov/publicworks/recyclingandsanitation/
Oakland, CA	Yes	Rolling Cart	Yes (CA incentive based)	http://www.oaklandpw.com/Page33.aspx
San Francisco, CA	Yes	Rolling Cart	Yes	http://www.sfenvironment.org/our_programs/topics.html?ssi=3&ti=5
Eugene, OR	Yes	Rolling Cart	No	http://www.eugene-or.gov/portal/server.pt?space=CommunityPage&control=SetCommunity&CommunityID=794&PageID=0
Austin, TX	Yes	Rolling Cart	No	http://www.ci.austin.tx.us/sws/
Ann Arbor, MI	Yes	Rolling Cart	No	http://www.a2gov.org/government/publicservices/fieldoperations/solidwasteunit/Pages/SolidWasteUnitHome.aspx
Lexington, KY	Yes	Rolling Cart	No	http://www.lexingtonky.gov/index.aspx?page=696
Anchorage, AL	Yes	Rolling Cart	No	http://www.muni.org/departments/sws/recycle/Pages/default.aspx

Identifying Key Components of a Model Recycling Program

The committee considered a model recycling program to have the following components:

- A comprehensive recycling program where innovative materials and collection methods are employed.
- In addition to standard curbside collection to residents, there may also be recycling collection offered to apartment buildings, businesses, industry and schools.
- In addition to common recycling commodities collected (paper, aluminum, cardboard, glass and steel) model programs also recycle electronics, food waste, yard waste, construction materials and household hazardous wastes.
- The study, "America's 50 Greenest Cities" was also used as a guide to identify model programs. Interestingly, one of the conditions of this particular study was, "how important citizens consider environmental issues."
- Other standard methods to evaluate recycling effectiveness including higher than average participation rates and recycling rates were also considered.

Successful Programs Set Goals

Many model recycling programs have predetermined goals in the way of mandates set forth by city/county ordinances or a percentage goal for solid waste diversion. Portland, OR currently recycles 56% of their municipal solid waste, however they have a goal set to recycle 64% by 2009 according the Oregon Department of Environmental Quality.

At least four of the localities the Committee reviewed have some type of mandate that requires residents or businesses to participate in the recycling program. Cited on the recycling website for Boston, MA "large apartment buildings are required to provide recycling services per City Council ordinance entitled: *Regarding Access to City Recycling for Large Apartment Buildings* which went into effect January 2003."

Seven out of the twelve model programs listed Zero Waste as a goal on their county website.

Successful Programs Encourage Participation through Incentives

In all of the model programs the trash collection day is the same day as recycling collection making it more convenient for citizens. It is also important to note that all of the localities use a system of franchising their solid waste collection to a single or a few waste collectors. Color-coded cans are used to separate trash from recycling, and in one instance (San Francisco), the

city also collects food waste in a third container which they turn into compost. The ease and convenience of the program creates an incentive to participate.

The Committee found that some localities use recycling bins that are larger than the trash carts. This visually creates importance for recycling, setting the tone that more should be recycled than thrown away. Localities also charge less for recycling collection than trash collection encouraging more waste to be diverted into the recycling bin.

An incentive program called Recycle Bank was also noted. Localities can contract with Recycle Bank and place Radio Frequency Identification (RFID) tags on each cart to electronically track the amount that each resident recycles. Points accrue based on weight of recyclables collected from each home. The resident can use their points stored in an online account towards online purchases from well-known retailers.

Successful Programs Promote and Educate

Successful programs usually have a tiered approach to educating their residents about what and how to recycle.

Municipal websites outline the nuts and bolts of the program and also offer advice on how to recycle or reuse common household items. Goals of zero waste are commonly displayed reinforcing the goal to divert as much trash from landfills as possible. Sometimes trivia games help teach about recycling in a fun way, or interactive search engines direct people to exactly what they want to recycle. (Where do I dispose of carpet, a bathtub, coffee stirrers?) Tools like compost bins are available for purchase on the website and info sheets such as “How to Stop Junk Mail” are also provided.

Tip Sheets, printed guides, brochures and flyers are available to homeowners, apartment dwellers, businesses and schools who want to start recycling programs. One locality offers a separate tip sheet for various industries with unique recycling needs including hotels, restaurants, and office buildings.

Education campaigns help publicize the program and get the community involved. One locality asked local companies to decorate a recycling container in a creative way. The bins were then put on display for the community to enjoy. Elected officials and leadership within the locality demonstrate how important it is to participate in the program. Staff members are available to citizens to answer questions about recycling. Most localities also do site visits to schools and businesses to assess their recycling needs and help implement a program on-site.

Recommendations

Curbside Recycling and Trash Collection

In nearly every city and county across the country that we studied as a "Best Practices" municipality, curbside collection and refuse hauling were the responsibility of the municipality. Chesterfield County does not collect refuse. Based on both data and anecdotal evidence we recommend that Chesterfield County should prepare for and provide refuse hauling to its citizens in the future.

The Model

For the purpose of this report, we call this new program Same Day Combined Collection (SDCC). SDCC will provide all residents with county managed trash and recycling service and they will both occur on the same day. The county will coordinate with both private service haulers and the CVWMA to ensure appropriate and efficient routes throughout the county, ensuring financially competitive routes and equal opportunities for small and large haulers alike.

Routes

Routes will be established based on area in the county and consistency of characteristics. For instance, routes will be divided so that a route generally does not combine subdivisions of ¼ acre lots with subdivision of two acre lots. This segregation of routes will ensure the most competitive bidding for the routes – i.e., the small lot subdivisions should be more efficient and lower priced routes than the larger lot subdivisions.

Hauling routes should be aimed at roughly 1,000 households per route, equating to roughly 100 total routes in the county, with 20-25 routes picked up per weekday. As the county grows, General Services will allocate new subdivisions to existing routes that make the most sense, and those households will be added to the contract of the hauler at the same per household rate as the current contract calls for.

Every ten years, the routes should be re-drawn, much like school redistricting lines are drawn, to ensure that as the county grows, the efficiency of the routes is monitored and kept up.

Contracts with Haulers

CRAC recommends that the contracts with haulers be five year contracts with a one time five year renewal. This keeps hauling rates as competitive as possible throughout the county.

Contract with CVWMA

CVWMA will coordinate and continue to function in its capacity to provide the administration and hauling contracts for the recycling program. It will coordinate its hauler to match the dates of hauling for the trash pickup throughout the county (100-125 routes weekly).

SDCC will actually increase the recycling pickup to each week, rather than the current every other week schedule. This recommendation stems from the Best Practices localities that have found substantial increases in the amounts recycled per week since they have a large bin for recycling, creating a greater need for weekly service.

Bins

The SDCC would see a change in the containers for trash and recycling. The small open-top rectangular bins (generally 12-17 gallons) would be replaced with large capacity covered rollouts (64-90 gallons), similar to those containers currently used by trash haulers. The new recycling bins would simplify the choice to recycle rather than throw away for several reasons. First, the wheeled rollout container will be easier for citizens to roll to the curbside than multiple small bins that must be picked up and carried individually. Further, the lid helps reduce the need for clean up of litter by residents whose open-top containers currently don't protect papers from windy days.

Benefits

Reduction in miles per trash truck

The most significant benefit to citizens, the county, and the environment, is the reduction in miles traveled by refuse haulers to remove trash from neighborhoods. In subdivisions where as many as eight trucks have historically run per week (collecting on average one in eight houses), now a single trash truck services every home. This reduces wear on roads by very heavy trucks, vehicle emissions, and reduces the number of days where trash bins are at the curb from five down to one.

Significant increase in volume and participation

SDCC can expect increases in both volume and participation. As an example, when the City of Norfolk implemented larger carts with every other week collection, their set-out rate doubled and their tonnage tripled.

Business efficiency for haulers

We have heard directly from haulers what is a common sense conclusion – hauling routes in which every home is included is much more efficient and thus much better contract pricing can be given. In addition to the efficiency of the route, fewer miles traveled means longer life for the trucks that are the haulers' greatest capital expense. The longer they can use their equipment, the better the prices to the citizens.

Equity of opportunity for haulers

By implementing SDCC, small haulers have a better chance to compete with the larger haulers than they currently do by contracting with the public directly. All of the administrative issues of billing, coordination of bin delivery, callbacks, etc. are all currently more expensive to carry out for the small hauler, since they have fewer resources to cover these issues relating to the business. By taking over these roles, the county as the franchise hauler lets the haulers do what they do best – pick up and remove refuse. Again, the result is better pricing, with better opportunities for more carriers.

Visible service to Chesterfield residents

With the exception of schools, residents of Chesterfield don't generally have many direct points of contact with the services provide by their government. While we all recognize a backdrop of fundamental services of police, fire, libraries, and parks, the SDCC provides an opportunity for a

weekly direct "touch" from Chesterfield of a service provided directly for all of its citizens. With this touch also comes the lifting of responsibility for citizens to contract their own hauler, with no room to secure the best rates. Because the county can negotiate the best rates through its franchise, citizens get the added benefit of lower hauling rates, with an increase in recycling frequency.

It is a rare and positive opportunity for the county to provide efficient delivery of service for its citizens in a time and economic era where how we spend our money has never been as critical.

Starting the Program

CRAC recommends the SDCC program without delay and recommends starting the process immediately. Because the Virginia regulations require a five-year notification to haulers of the intent to franchise, we recommend that this notice be given as soon as the Board can vote to do so. By advertising now, the details of what the routes look like, what the fees will be, and necessary communications with the haulers can be done in a way that will result in a positive startup to the SDCC program.

The initial phase should begin by implementing 96 gallon carts for recycling. This will allow the county to see the increase in recycling that comes with roll out containers as evidenced by best practice localities we studied. Consideration should be made to equip carts with radio frequency identification (RFID) that helps the recycling contractor optimize routes.

Education and Outreach

Education is paramount for maximizing the value of ongoing programs. It is also critical as new programs are implemented, such as the 96 gallon cart recommendation. In addition to the programs developed by the CVWMA, CRAC recommends that the county develop a marketing plan specific to our locality to promote the practice of recycling to current recyclers and non-recyclers

This program can be developed with the assistance of the staff at CVWMA, but should be tailored to the county's FIRST CHOICE vision. Henrico County utilizes their Department of

Public Utilities and its "Keep Henrico Beautiful" program to promote and educate the public as to the benefits of recycling. As an example, a recent insert in their utility bills resulted in a 50% increase in bin requests from eligible residents. Chesterfield could limit the cost of any marketing materials by partnering with local businesses for sponsorships. The county could also utilize the county libraries for distribution of pamphlets, bin stickers, and brochures, as well as distribute newsletter articles and materials to homeowner's associations throughout the county.

Electronic and social media are also two of the best, low-cost methods for distributing information. CVWMA can provide articles for Board members to send to their constituents and can add residents to their Facebook page.

CRAC also recommends that the county update its website to provide more recycling information in an attractive manner. Currently, a resident would have to know that recycling is under the Department of General Services Environmental Division to find this information on curbside recycling:

> *The county has over 93,000 single family homes eligible to participate in the regional curbside recycling program. This program is offered on a bi-weekly schedule. Residents are encouraged to use this program because the county pays a monthly fee for each home in the program. For more information regarding this program, please*

call the recycling hotline at 340-0900 or go to the Central Virginia Waste Management Authority website www.cvwma.com (as of 5/31/10).

There is also a separate page entitled "Convenience Centers – Recycling" that details all materials collected at the centers. There are no pictures on either of these pages. We recommend a review of the Best Practices' localities websites for the type of information that should be presented, including materials accepted at the curb, how to obtain a bin if a homeowner is new to the county, if their bin is damaged, if stickers are necessary for additional bins, as well as the information about the additional drop-off locations identified earlier in the report (convenience centers, parks, schools, etc.). Both the Curbside Recycling and Convenience Center Recycling pages should be combined into one page and posted in a section of the website that is easily found.

CRAC also recommends that the Board of Supervisors and the County Administrator issue a proclamation that the county supports and promotes recycling, in lieu of a mandate that recycling be required of all citizens and businesses. County elected and appointed leaders should attend public and private "green" events, demonstrating the county's commitment to making recycling a priority in our FIRST CHOICE community. Leaders should also post frequent messages in support of recycling and environmental programs highlighting the county's commitment. By providing top-down leadership, the county can lead by example to promote environmental stewardship.

Non-Curbside Recycling

CRAC recommends that all existing non-curbside recycling programs continue. As finances allow, we also support the Parks and Recreation Department's initiative of providing recycling at more county parks. Partnering with local Boy Scout troops for Eagle Scout projects and other interested non-profit associations would be a way for the department to install side-by-side trash and recycling cans at each park, similar to those found in the City of Richmond's riverside parks.

County planning should include provisions for requiring recycling containers for new development project sites, commercial and non-commercial alike. A specific example would include requiring double commercial dumpster pads in commercial sites so that one can be a large recycle bin. This will help businesses that may want to recycle, particularly restaurants,

offices, and other users of highly recyclable materials, that often have no physical repository locations nearby. Other departments, including Utilities, Environmental Engineering, Parks & Recreation, Libraries, and of course, Schools, should look for similar opportunities to plan for infrastructure that can create opportunities for recycling or reduced resource use that don't cost capital expenditures to implement.

CRAC further recommends that the county continually look for improvements in efficiencies and effectiveness in all recycling programs.

School Recycling Program

CRAC recommends that the county initially pay for single-stream recycling at all schools and coordinate with a CCPS Recycling and Sustainability Committee. It is anticipated that when CCPS division-wide recycling pays for itself by reduction in trash pick-ups, then funding from the county could be discontinued.

When single-stream recycling is adopted, the schools will be recycling the same materials included in the county curbside recycling program. This also provides an opportunity to not only educate our students, but for them to pass on that knowledge and practice to their families. Schools play an important role in educating community members as well, through printed material and signs throughout the school grounds (which are often visited by non-school families after hours) school functions, assemblies, carnivals, etc. Providing basic recycling service often is the stimulus needed for schools to consider other environmental practices such as reduced energy usage, composting, and other practices that have an economic and environmental benefit.

Additional single stream recycling containers at the schools could potentially be made available to the public. Consideration needs to be given to controlling and managing the amount of recycling at each school location.

A consistent division-wide program with central coordination provides a way for measuring results and a means of communicating performance and successes. A CCPS Committee including key stakeholders in the program from Central Office, County Administration, and each school ensures not only support for the program, but provides a platform for evaluation of further sustainable practices for additional education and cost benefits in the future. Central Office, as of April 2010, has initially approved the formation of a Recycling and Sustainability Committee for discussion, evaluation, and potential implementation of a division-wide school recycling program.

School Start-up Costs and Potential Cost Savings

Single-stream recycling has a cost for collection of recyclable materials that CRAC recommends initially be provided by the county as part of Chesterfield County recycling service. The total cost would depend on the size container needed at each school. Assuming one 8 yd. container per school, with weekly pickup, the annual cost would be $49,896. Classroom and cafeteria collection containers will also need to be purchased for each school, along with gloves, signage, and other costs. An extensive educational campaign will also need to be designed and promoted in order to ensure that recycling is performed in each classroom, cafeteria, and office. Numerous grants exist for the implementation of recycling programs and could be requested to assist with these start-up costs.

Virginia Waste Services provides a joint contract for CCPS and Chesterfield County. Schools pay an invoice for trash and save if trash is reduced. Potential cost savings could come from having fewer trash containers at school, and/or having fewer pick-ups of trash from the containers. For example, schools with two trash containers could switch one of the containers from 5 pick-ups per week to 3 or 2 pick-ups.

It is anticipated that this program will eventually sustain itself financially through reduced waste disposal costs.

Economic Development/Benefits

Chesterfield as FIRST CHOICE

As a FIRST CHOICE community, Chesterfield County sets itself a goal as the best place to both live and work. This takes not only a vision of what that best is, but also the will to do what it takes to fulfill that vision. One of the county's core values is stewardship of the environment, and promoting recycling programs by both word and action is one important way to develop the lifestyle of a sustainable community. To be FIRST CHOICE, Chesterfield should be a leader in the region in this endeavor, not only encouraging residents and county services to recycle, but also to bring the business sector into this arena as well.

Supporting Current Businesses

Businesses, particularly those in the manufacturing sector, have long known the value of recycling in their processing and have practiced pre-consumer recycling as an economic and efficient way of doing business. The aluminum industry uses a significant percentage of recycled stock in its manufacturing process, and indeed were among the earliest promoters of post-consumer recycling, particularly as mining bauxite became more expensive and drink cans more prevalent. There are multiple Chesterfield businesses, such as Precision Recycling Inc of Virginia, GrindAll, JB Mulch, Ace Recycling, and American Pallet, that recycle the raw materials in their businesses into different and useful products. These businesses, as well as others in the county such as Tidewater Fiber, in part rely upon county recycling programs for their own sustainability. These businesses generate their revenue from recycling and contribute to the county tax base.

Other industry leaders, such as Dupont and Philip Morris, have developed systems to recycle water and maintain and develop the wetlands on their properties to leave a gentler impact on their business locations. In addition, many of their industrial wastes are inserted into the recycling pipelines. These businesses, already in place and serving as good neighbors operating under ISO 14001 standards and Environmental Management Systems, also serve as an encouragement to other businesses looking to settle here. Also, some of the smaller businesses, such as the cabinet makers and machine shops that are located county-wide, can be encouraged to develop relationships with these firms and not throw away their waste products, but turn them into the feedstock for other manufacturers, if they are not already doing so. Significant capital

investments and county revenues are generated annually by these businesses that practice or are dependent upon the recycling programs as a source of their raw materials.

Economic Development

In order to continue to grow and prosper, Chesterfield County must attract new business and industry. As the county sets the example of sustainability in its own practices and services, and recognizes the businesses in the county that continue and develop further strong environmental practices, it will set a good image and send a strong green message.

According to the Workplace Insight survey released by Adecco in 2009, "American workers are paying growing attention to companies' environmental policies and an increasing number say that they would be more inclined to work for "green" companies." Also, an employment poll by MonsterTRAK.com found that 80% of young professionals are interested in securing a job that has a positive impact on the environment and 92% would prefer to work for environmentally-friendly companies. Green business strategies indicate to the public that the company is both progressive and concerned about the future. It is an indicator of community awareness, an important image for business to project, and builds good will, as well as strengthening the quality of life in the county.

Chesterfield County Economic Development Department is targeting a number of business sectors: corporate headquarters, biotechnology, and the food industry to build upon a trend that started with Maruchan and Fiorucci. Corporations always look for a strong and vibrant locality with significant amenities for the officials who would be moving there. Leadership in environmental stewardship and sustainability would make a strong case for Chesterfield County.

Several of these targets fit well with a green business focus: the food industry can add to the several compost businesses already in business in the county. Biotechnology, being a new clean technology is a perfect fit, and very desirable for a growing business locality, and heavy industry already practices much in the way of pre-consumer, as well as post-consumer, recycling and reuse.

Customers admire green business practices; more consumers purchased green products in 2008 than in 2007, and more were willing to pay higher prices for green products if they were considered to be of equal or higher quality. At the most basic level, programs that practice "reduce, reuse, recycle" lead to cost savings. More expansive sustainability efforts offer new and existing businesses a tremendous opportunity to reduce production costs and give a company

their competitive edge. The Boston Consulting Group reports that "the business case for green remains compelling, especially in a tough market."

Supporting the Vision

Now is the right time to position the county as a leader in environmental stewardship and sustainability practices because businesses and citizens are demanding it. At a time when Virginia's railroads talk about using them to save millions of dollars in highway maintenance, accident avoidance, and reducing carbon dioxide emissions (Norfolk Southern) and moving thousands of tons of freight on one gallon of fuel (CSX), we know that the time is right to focus Chesterfield County's economic development in this direction. As the county grows in the next years, it will need to bring in new business to create stronger revenue streams. This is also in keeping with Governor McDonnell's goal to make Virginia the "Energy Capital of the East Coast". Creating new jobs will also be a strong focus for the next several years, which will require bringing in new business and industry. Many of the businesses at Sustainability Park are already expanding as Ace Recycling continues to widen its stream of materials and clients. Precision Recycling Inc. of Virginia has developed glass recycling in many different and original ways, taking up the most difficult commodity in the curbside recycling stream. Our local businesses, from Alsco Metals and Kaiser Bellwood to Pohlig Brothers rely on recycled feedstock for their business operations.

A Green Jobs initiative opens new doors for a locality to invite responsible companies to the region because they are committed to protecting our resources and exploring ways to reduce or reuse their wastes and recycle other commodities that are not useable in-house. By targeting the green businesses, including green energy, the county can expand an already developing and growing industrial initiative in the county. A clustering of these businesses becomes an opportunity to attract economic development dollars and grant opportunities.

Environment First Chesterfield

Mere words? Or a new way of thinking?

The work of the Citizens Recycling Advisory Committee has revealed many recurring themes. Recycling has shown itself, particularly in the cities, counties and regions around the country that embrace recycling, to be but a spoke in a more complete wheel of environmental responsibility. What we have found is that recycling can be the first step toward a philosophy and attitude of environmental responsibility, paving the way for incremental positive changes in the attitudes of citizens and businesses regarding their role in conserving and preserving our resources for generations. We also found that when these principles are embraced by a locality, that locality enjoys an attractive reputation as a place that cares more about its business and citizens as well.

The City of Seattle proudly promotes its views on environmental stewardship as a foundation for livability for its citizens, and they inform the many ways in which environmental stewardship makes sense not only ecologically, but financially as well (www.seattle.gov/environment). Seattle's position has made it a magnet for environmentally conscious businesses and residents who care about stewardship. Therefore Seattle has become a leader in receiving grant money for eco-projects that further their brand simply because they have positioned themselves to successfully carry those projects through.

ZEROWASTE

New Zealand is one of many regions looking to reduce or eliminate waste through resource management.

Who is more appropriate than local government to look out for the truly long-term interest of the citizens? No one individual, business, or association has true permanence – only the local government. And because the government is entrusted with the public's health, safety, and welfare – three elements that are all affected by the state of environmental quality – the environment can and should be seen as a foundational element of the brand of localities, including Chesterfield.

We know that recycling is significant, but only one part of this brand. The recycling program has helped us to recognize more clearly the opportunities to capture value for the citizens of Chesterfield, merely by making a deliberate commitment to resource management in all areas of its reach.

It is important to note that the goal for Chesterfield County and resource management should not be one of environmental edicts, as private businesses and taxpayers may not appreciate, and in this economy may not be able to afford, mandates that simply increase the cost of operation.
CRAC recommends that Chesterfield instead be a leader in how it behaves on its own regarding resource management. The county has done well to implement ISO 14001 and move towards LEED certification for government buildings. These efforts provide a foundation for great opportunities in the following areas:

- energy efficiency
- transportation options
- natural resource preservation
- air and water quality initiatives
- strategic partnerships
- regional planning
- public outreach

By walking the walk, Chesterfield gains credibility and legitimacy in the realm of doing the right thing regarding its resources. Chesterfield has the potential not only to extend its public reach to a large audience (its citizens), but also to provide a leadership role in how a locality can promote livability without creating unnecessary cost increases. In fact, the county can embrace the many examples of how environmental stewardship can reduce costs while improving the many micro-climates that are necessary for complete and healthy systems. One such example is the New Belgium Brewing Company of Fort Collins, Colorado, who not only reduced their environmental footprint, but improved their costs of running their business. (www.prizmsustainability.com/files/EPA_article2.pdf)

Leadership by top levels in government is also the easiest way to make a difference in environmental resource management. With that leadership, many things get done (ex. – Tom Menino in Boston). Without top-down leadership, little will be accomplished.

Chesterfield can begin charting its course of environmental leadership by asking itself the following questions in all matters:

- Does the decision impact the public environment elements *(i.e., water, land, air, and the systems that support them)*?
- Is the decision intended to affect only one segment of the community? If so, does the decision actually have impacts on those beyond the segment intended? *Example – not permitting expansion of a landfill due to angry neighboring residents might result in a bigger future impact on the roads because more trucks carry waste further, causing road, air, and other safety concerns. Are both impacts being fully weighed?*
- Is there another way to reduce environmental impacts while achieving the goals of the decision?

By beginning to ask these simple questions as a matter of course, the county can begin its leadership in environmental stewardship by first practicing what it preaches. The county will then be in a much better position to recommend this behavior to those who live and work here.

We believe that by being an *Environment First* County, along with educating the citizens and businesses about why, the county will generate a strong environmental brand and become known as the true locality of choice in central Virginia. Successes will incubate others, and ideas will flow from within the communities in this county.

Studying the merits of a strong recycling program leads us to the conclusion that the county is in an excellent position to expand its goals of environmental leadership in a positive and non-threatening way, even in difficult economic times. Armed with top-level leadership and a commitment to long-term success, Chesterfield is in a position to truly lead…

Environment First.

Future of the Citizens' Recycling Advisory Committee

The vision as outlined by the committee, if achieved by the county, has tremendous benefits for the citizens, businesses, industry, non-profit groups, school system and local government. We suggest the committee assume a leadership role to guide the implementation of the recommendations and help with the development of new policies on environmental strategy and planning. The committee is willing to continue to serve the Board of Supervisors in providing updates on innovative technologies, as well as environmental and regulatory trends.

The committee further offers to serve in an expanded capacity as a standing citizens' advisory committee for a sustainable environment and recommends the Board of Supervisors create and appoint a Chesterfield Environmental Sustainability Advisory Committee.

Summary of Recommendations

1. ***Same Day Combined Collection (SDCC) of recycling and trash is recommended.*** Due to lengthy notification requirements, the county needs to prepare immediately for managing refuse hauling for its citizens. By citizens having trash and curbside recycling pickup on the same day, the following benefits will be derived:

    - increased recycling participation
    - reduced truck traffic
    - reduced emissions
    - increased roadway safety
    - reduced road maintenance
    - decreased citizens' costs

2. ***The county should develop a marketing plan specific to our locality to promote the practice of recycling to current recyclers and non-recyclers.***

3. ***Non-curbside recycling programs should continue.***

4. ***County planning should include provisions for requiring recycling container space for new development project sites, commercial and non-commercial alike.***

5. ***We recommend the county implement single-stream recycling in all schools.*** The CCPS Central Office has initially approved the formation of a Recycling and Sustainability Committee for discussion, evaluation and potential implementation of a division-wide school recycling program.

6. ***Economic development efforts should include actively supporting current businesses that have long known the value of recycling and have put efforts and business practices into recycling raw materials and valuable resources.*** The county needs to set the example of sustainability in its own practices and services, recognize businesses in the county that practice strong environmental policies and use this strategy as a marketing tool to promote Chesterfield for new businesses. In addition, targeting green businesses can expand an already developing and growing industrial initiative in the county.