

Final Committee Report

Long Range Solid Waste Solutions Advisory Committee

The Waste Hierarchy



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1 Committee Summary

2 In April 2014, the Albemarle County Board of Supervisors formed the Albemarle County Long Range
3 Solid Waste Solutions Advisory Committee (the Committee): “to study solid waste management as a
4 public policy issue and to identify best practices for the management of solid waste in the County, now
5 and in the future, including the possibility of regional cooperation. The Committee will recommend
6 policy and implementation strategies consistent with the County’s Comprehensive Plan and the
7 organizational vision of Albemarle County”.

8 A City-County task force on solid waste reported recommendations in 1989 that initiated the Rivanna
9 Solid Waste Authority (RSWA). Many of the recommendations contained in their final report such as
10 large-scale composting and recycling were never implemented. Twenty six years later, the Ivy landfill is
11 closed, and RSWA is an important partner with both the City and County as it deals with mandated post-
12 closure activities at the landfill site. Over the years, the Board of Supervisors has considered various
13 proposals for waste management since the landfill’s closure, although none have been implemented.
14 The Board’s desire for long-term solutions led to the formation of the Committee.

15 This report is the product of the Committee’s work over the course of the last 16 months. The Board
16 appointed a diverse membership that brought dedicated energy to the biweekly Committee meetings,
17 which featured a vigorous exchange of ideas and continual learning. Committee members visited
18 municipal solid waste (MSW) facilities around the region and met with nationally accredited consultants
19 as well as local experts. They conducted public opinion surveys and hosted open house events for
20 residents and stakeholders. Two retreat-style meetings with facilitation were held using the services of
21 UVA’s Institute for Environmental Negotiation.

22 The results of this study have been compiled and prepared in this report to serve as a guidance
23 document for formulating sustainable materials management (SMM) policies in Albemarle County.
24 These policies both address immediate issues and evaluate a longer time horizon of up to 10 years for
25 implementing larger or more complex strategies. Sustainable materials management not only reduces
26 the quantity of waste destined for landfills but also conserves resources, reduces waste generation, and
27 minimizes the environmental impacts of the materials we use (EPA 2015a). These are the overarching
28 goals that the Committee believes are necessary for the County to embrace and work to achieve.
29 Through dialogue with the public and stakeholders, the Committee understands that improved services
30 for MSW are important to County residents. The SMM practice ensures that Albemarle County and its
31 citizens will continually improve the processes by which we manage our material resources and our
32 waste streams.

33 The policies developed and presented in this report, along with the implementation strategies to foster
34 SMM are consistent with the County’s Comprehensive Plan, the organizational vision of Albemarle
35 County, and the regional Thomas Jefferson Solid Waste Management Plan. The Committee’s
36 recommended policies are presented within the context of appropriate planning horizons and include
37 simple characterizations of costs and predicted impacts as being of higher or lower relative magnitude.

38 One of the priorities identified by this Committee is to create a standing SMM Advisory Committee with
39 the expectation that this new Committee, among other activities, would assist the County in the
40 development of a thorough impact analysis of recommended policy implementation. Additionally, the

1 creation of a new County staff position for a SMM Coordinator would provide the necessary manpower
 2 and expertise needed to ensure that the County remains engaged and actively progresses in establishing
 3 and improving its SMM program.

4 The following pages present our recommendations in tabular format, looking at the near term (0-2
 5 years) followed by mid-term (0-5 years) implementation. The only recommendation that extends to the
 6 full 10 years involves the development of regional partnerships, which will remain a more complex and
 7 ongoing process.

8 The Committee has identified five top priorities for immediate implementation or for action in the
 9 County’s FY 2016-2017 operating budget as well as the 2016-2020 capital improvement plan, and these
 10 are presented as the lead recommendations. All have been classified by the Committee as having a
 11 higher impact on goal achievement. They are presented in order of lower to higher cost, but there is no
 12 hierarchy implied as they all represent core initiatives the Committee has determined are necessary for
 13 the County in order to proceed with the identified goals of waste minimization, resource conservation,
 14 and environmental protection.

Table 1. Top Priorities for Immediate Implementation or Action	
Near Term (0-2 Years) Implementation Strategies	Cost
<i>Establish a Standing SMM Advisory Committee</i> - No new funding required; minimal operating impact on support staff.	Lower
<i>Increase Recycling Options and Activities in Albemarle County</i> - Provide RSWA appropriation increase to expand daily hours of operation at McIntire and Ivy MUC. - Increase funding for custodial services and recycling/composting programs at County facilities - Establish goals and timeframes	Lower
<i>Institute and Support Education and Outreach Programs</i> - Budget annually for educational materials and support to establish a community education program and coordinate with the City, TJPDC and UVA - Ensure that uniform and correct terminology is used in marketing and educational materials	Lower
<i>Create and Staff a County Materials Management Office</i> - Appropriate additional funds for the SMM Coordinator position	Higher
<i>Plan and Construct Ivy MUC Upgrades</i> - Use existing capital funding and augment as needed to: • Create a model recycling center • Upgrade transfer station • Establish some source separation of MSW brought in by small commercial haulers	Higher

15 To provide additional narrative for the top priorities, the Committee would like to note the following:

16 ➤ *Standing SMM Advisory Committee.* The County maintains permanent advisory boards or committees
 17 for a number of key policy areas. This Committee began with a temporary charge, yet ongoing
 18 community outreach and volunteer support to the County staff is appropriate. Many of the
 19 Committee members are willing and eager to continue their service in an ongoing capacity.

- 1 ➤ *Increase Recycling Options and Activities.* The Committee recommends increasing the limited hours of
2 operation at McIntire and the Ivy MUC as the current schedule makes recycling inconvenient or
3 impractical for many residents who otherwise desire to participate in source separated recycling.
4 Further, the County should lead by example and implement its own program for source separated
5 recycling within its operations and facilities, and establish recycling goals and time frames as part of
6 the SMM program framework.
- 7 ➤ *Education and Outreach.* The Committee feels strongly that a public education program is paramount
8 to ensure that County residents are accurately informed on SMM opportunities. Effective partnerships
9 with the City, UVA and the TJPDC promote a wider message and allow cross-networking on a regional
10 scale.
- 11 ➤ *Materials Management Office.* The wide range of strategies recommended in this report demand a
12 focal point within County government to provide coordination and leadership. The SMM Committee
13 needs staff support; community partners need a liaison; contracts need to be written, managed and
14 executed. Thus establishing a permanent, full-time position in the County to implement and manage
15 the SMM program is viewed by the Committee as a core requirement.
- 16 ➤ *Ivy MUC Upgrades.* The transfer station requires rebuilding to achieve regulatory compliance and to
17 improve its functionality for small haulers, businesses and residents. It supports economic stability for
18 small commercial MSW haulers that provide specialized services for residents and largely serve the
19 rural areas of the county. Without this, small commercial MSW haulers will likely find it unprofitable
20 to operate because of the long distances to the alternatives. Providing facilities at the MUC for source
21 separated residential waste would also allow small commercial operators to offer more services, and
22 these in turn support the County’s efforts to increase recycling. Building a McIntire-style recycling
23 center at the MUC would serve western and parts of southern Albemarle and provide County
24 residents a well-run facility that could potentially serve as a model for other areas in the County.
- 25 Additional priorities that can be addressed in the near term are presented in Table 2. All are considered
26 equally viable for the near term and are presented based on impact.

Table 2. Additional Priorities for Near Term Implementation or Action	
Near Term (0-2 Years) Implementation Strategies	Impact
<i>Expand and Increase Special Collections</i> - Budget annually for maintenance of secure collection repositories for: • Pharmaceutical diversion program	Higher
<i>Launch a Public Discussion on Creating Additional Recycling Centers</i> - No new funding required; minimal operating impact on support staff.	Higher
<i>Assess Implementation Impacts Using Established Metrics</i> - No new funding required; minimal operating impact on support staff.	Higher
<i>Grow Municipal and Public-Private Partnerships</i> - No new funding required; minimal operating impact on support staff for: • Leveraging existing resources programs with local businesses	Higher
<i>Review/Amend Albemarle County Code Chapter on Solid Waste Disposal and Recycling</i> - No new funding required.	
<i>Support Economic Development</i> - No new funding required; minimal operating impact on support staff to: • Focus on business development/ financial benefits of community participation	Lower

- 1 To provide additional narrative for these near term priorities, the Committee would like to note:
- 2 ➤ *Pharmaceutical Collection.* Disposal services exist to transport waste pharmaceuticals and incinerate
- 3 them. A secure drop-off box for collections could be placed at the Ivy MUC or at secure sites such as
- 4 the 5th Street County Office Building or Fire Rescue stations in the urban or rural areas.
- 5 ➤ *Dialogue on Additional Recycling Centers.* Many residents in both urban and rural areas are not ideally
- 6 served by McIntire and the Ivy MUC. Improvements to the existing facilities and services in
- 7 conjunction with continuing community dialogue may lead to demand for recycling centers in other
- 8 parts of the county.
- 9 ➤ *Use Established Metrics for Impacts.* Metrics will be needed to evaluate the SMM program over time.
- 10 These include but are not limited to the evaluation of the cost of capital and operations over the
- 11 lifetime for each policy or practice carried forward.
- 12 ➤ *Grow Public-Private Partnerships.* The TJPDC regional plan recommends that Albemarle, “Realize
- 13 economies of scale through regional collection, disposal, and recycling opportunities.” The Committee
- 14 supports and encourages RSWA partnerships with other, neighboring solid waste authorities for
- 15 shared services and economies of scale. Further, creating new partnerships with existing local
- 16 business programs can support SMM program implementation in an economically efficient manner.
- 17 ➤ *Support Economic Development.* Support the pursuit of local economic opportunities that develop as
- 18 the result of a robust recycling environment. Examples include paint repurposing, compost hauling,
- 19 and methane production/use from anaerobic digestion.
- 20 ➤ *Revise Chapter 13, Solid Waste Disposal and Recycling, of the Albemarle County Code.* This chapter
- 21 was last updated in 1998. It should be examined by staff and updated by the BoS to ensure that it
- 22 agrees with the SMM policies of the County going forward.

23 There are several Committee recommendations that require a longer implementation period. Thus,

24 when looking at work to be performed within the time frame of the current Comprehensive Plan (0-5

25 years), a subset of recommendations fits into the same mid-term planning horizon. These are presented

26 in Table 3. While the Committee considers each strategy to be important and equally viable, they are

27 ordered based on impact and cost.

Mid-Term (0-5 Years) Implementation Strategies	Cost	Impact
<i>Increase Recycling Options and Activities in Albemarle County</i> <ul style="list-style-type: none"> • Establish a county-wide composting program and partner with the City • Encourage HOAs to adopt curbside single-stream recycling • Establish incentives & drivers to separate recyclable and compostable materials 	Lower	Higher
<i>Extend Recycling Collection in Urban Areas</i>	Lower	Higher
<i>Expand and Increase Special Collections</i> <ul style="list-style-type: none"> • Improve centralized universal, household hazardous waste (HHW) and e-waste collection • Consider door-to-door HHW collection program • Improve/expand hazardous materials collection (unused or leftover paints, solvents, pesticides, cleaning and automotive products, and other materials) 	Higher	Higher

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<p><i>Support Economic Development</i></p> <ul style="list-style-type: none"> • Consider economic development opportunities with recycled materials • Determine what businesses are doing and where improvements could be realized in recycling & composting 	Lower	Lower
<p><i>Foster Rural and Special Services</i></p> <ul style="list-style-type: none"> • Carefully plan and establish rural recycling centers • Create a framework for curbside single stream services in the rural parts of the county 	Higher	Lower

- 1 To provide additional narrative for these mid-term priorities, the Committee would like to note:
- 2 ➤ *Increase Recycling Options and Activities.* Expand partnerships for composting. At present, a
3 potentially valuable soil resource instead goes to landfills, at considerable cost. RSWA may be able to
4 lead a partnership for expanded composting which would prove financially viable – both revenue-
5 neutral to taxpayers and attractive to a contract partner. Additionally, the Committee recommends
6 support to homeowner associations to establish single stream recycling and composting as a way to
7 leverage neighborhood density towards SMM.
- 8 ➤ *Urban Recycling Collection.* The Committee recommends a study of options for establishing collection
9 similar to the City’s recycling program to the county’s densely populated areas. Charlottesville’s single
10 stream recycling with biweekly collection in large carts has quickly improved recycling rates in the City.
- 11 ➤ *Special Collections.* The Ivy MUC should offer a location for hazardous materials available for collection
12 and/or reuse (paints as an example), and should also have routine collection bins for electronic waste.
13 Standard universal waste items that should be collected include batteries and compact fluorescent
14 lightbulbs. Compostable materials should also be accepted: a simple way would be to mimic the
15 service begun at City Market in the spring of 2015. McIntire could have many of these same
16 enhancements, although space is more limited there.
- 17 ➤ *Economic Development.* The Committee believes that there is economic opportunity in the use of
18 recycled materials and advocates supporting local businesses that engage in these practices and
19 generate new products and markets using recyclables. In addition, a study to identify what the
20 business community in the County already does as standard practice would identify where
21 improvements could be made that would mutually enhance SMM and the business environment.
- 22 ➤ *Rural and Special Services.* Neighboring counties offer multiple locations for MSW and recycling
23 collection. The Committee believes rural residents would benefit from similar additional collection
24 locations. Rural recycling centers would prioritize source-separated recycling, but they could also
25 provide MSW collection and perhaps some specialty services such as a reuse/swap area or donation
26 boxes, e-waste collection, or collection of tires or paint, depending upon the service area’s needs.
- 27 In summary, many of the policy goals and strategies presented here and further discussed in the
28 accompanying report require action by the RSWA and partnership with the City of Charlottesville.
29 Sustainable materials management is a policy area where cooperation makes a great deal of sense and
30 each partner gains through working together. This was the premise and promise of the 1989 report, and
31 it remains true to this day.

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Acronym List

BoS	Board of Supervisors
CIP	Capital Improvement Plan
EPA	Environmental Protection Agency
FY	Fiscal Year
HHW	Household Hazardous Waste
HOA	Homeowner association
ICMA	International City/County Management Association
MRF	Material Recovery Facility
MSW	Municipal Solid Waste
MUC	Material Utilization Center
NRC	National Recycling Coalition
RSWA	Rivanna Solid Waste Authority
SMM	Sustainable Materials Management
TJPDC	Thomas Jefferson Planning District Commission
TJSWD	Thomas Jefferson Solid Waste District
UVA	University of Virginia
vdL	van der Linde Recycling and Container Rentals

1 Introduction and Background

There is a growing awareness of the need to use resources wisely and efficiently in order to build and maintain a vibrant and resilient economy. The paradigm of “waste management” is no longer sufficient; rather, a life cycle materials approach called Sustainable Materials Management (SMM) is now embraced by the business community, government, and non-profits that have historically worked on resource recovery (NRC 2015).

This report has been prepared as a guidance document for formulating SMM policies in Albemarle County that both address immediate issues and evaluate a longer time horizon of up to 10 years for implementing larger or more complex strategies. SMM conserves resources, reduces waste, and minimizes the environmental impacts of the materials we use (EPA 2015a). This practice ensures that Albemarle County and its citizens continually improve the processes by which we manage our material resources and our waste streams.

1.1 History

For many years, local communities had access to a municipal solid waste (MSW) landfill, initially out on Avon Street Extended and later in Ivy, VA off of Dick Woods Road. This last landfill closed in 2001. Today, most of the residents of Albemarle County, along with businesses and institutions, have materials removed by private haulers and transported either to privately owned facilities that serve as intermediaries prior to landfilling or directly to privately owned landfills in other counties.

1.2 Previous Committee Work

The Committee’s work is linked to other, similar projects from past years:

- The Charlottesville/Albemarle Solid Waste Management Task Force, which predated the formation of the Rivanna Solid Waste Authority (RSWA), issued a report in 1989 that recommended strong recycling programs, composting, and City-County cooperation on facilities and services.
- The County and RSWA had commissioned consultant evaluations in 2012, focused on the Ivy Material Utilization Center (MUC), and in 2007, when a draft strategic plan was produced but not adopted by the RSWA Board of Directors.
- The Thomas Jefferson Planning District Commission (TJPDC) produces a regional solid waste management plan, last published in 2011 and due for update in 2016.

1.3 Albemarle County Long Range Solid Waste Solutions Advisory Committee

The Albemarle County Board of Supervisors (BoS) authorized the formation of this Committee in April 2014. The BoS sought to have MSW management in Albemarle County studied as a policy issue and to have best practices identified and evaluated for the management of our MSW, both now and in the future.

From the committee charge:

“The Albemarle County Long Range Solid Waste Solutions Advisory Committee is an advisory committee formed by the Albemarle County Board of Supervisors to study solid waste management as a public policy issue and to identify best practices for the management of solid waste in the County, now and in the future, including the possibility of regional cooperation. The Committee will recommend policy and

implementation strategies consistent with the County’s Comprehensive Plan and the organizational vision of Albemarle County.”

The Committee’s recommendations may result in changes to the Comprehensive Plan as indicated in strategy 7J of the Facilities Chapter of the Plan.

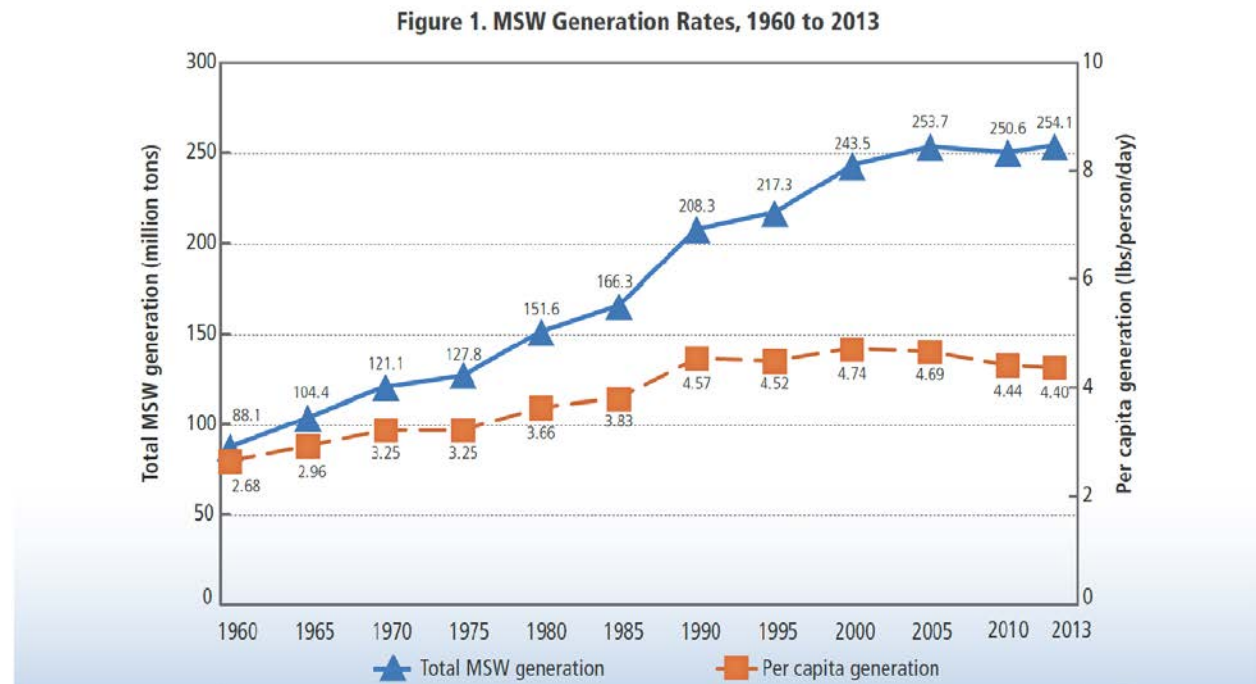
This report completes the charge of the Albemarle Long Range Solid Waste Solutions Advisory Committee.

2 Existing Conditions

MSW has traditionally been the formal term for what is more commonly known as trash or garbage. Our MSW consists of everyday items we use and then throw away, for example: product packaging, grass clippings, furniture, clothing, cans, bottles, food scraps and newspapers. MSW comes from our homes, schools and businesses.

2.1 MSW Management on a National Scale

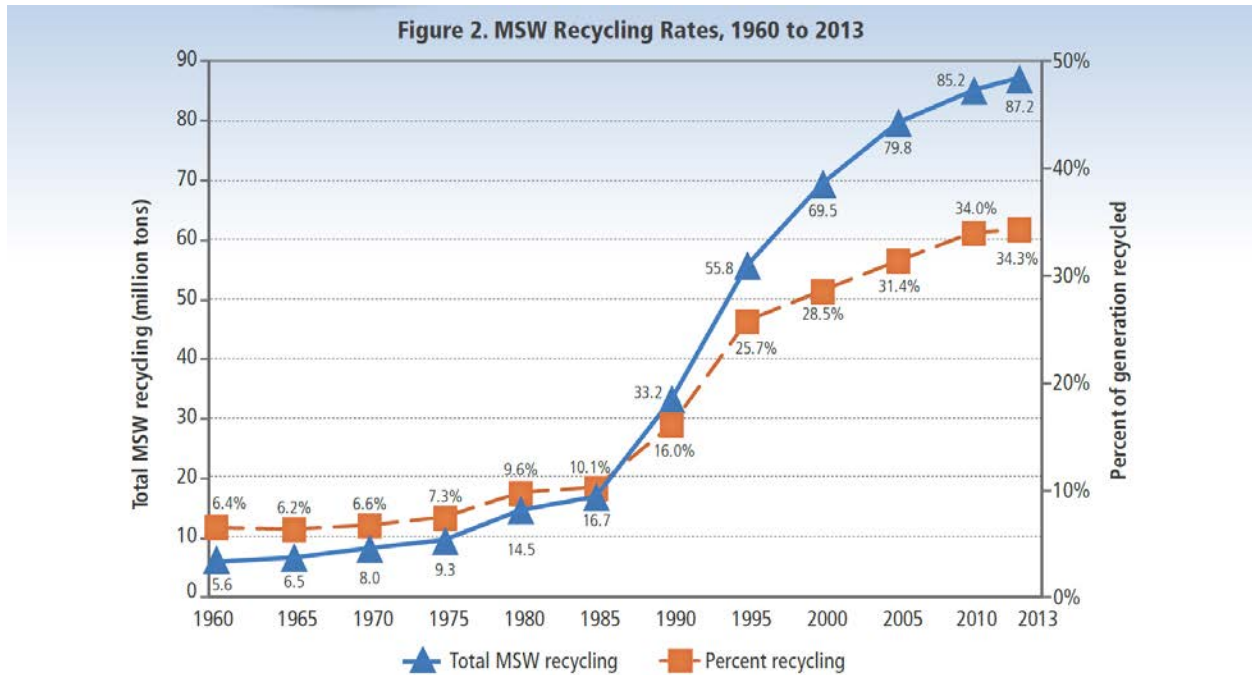
Data on the annual MSW generation rates in the United States have been collected since 1960, and the Environmental Protection Agency (EPA) publishes reports that evaluate current practices and trends over time. As indicated in Figure 1, the amount of waste that has been generated in the U.S. has steadily grown over the last 55 years, commensurate with population growth, but also clearly demonstrating a growth in the amount of waste generated on an individual basis. Over the last 10 years there has been a downward turn in the amount of waste generated on a per person basis.



EPA 2015b

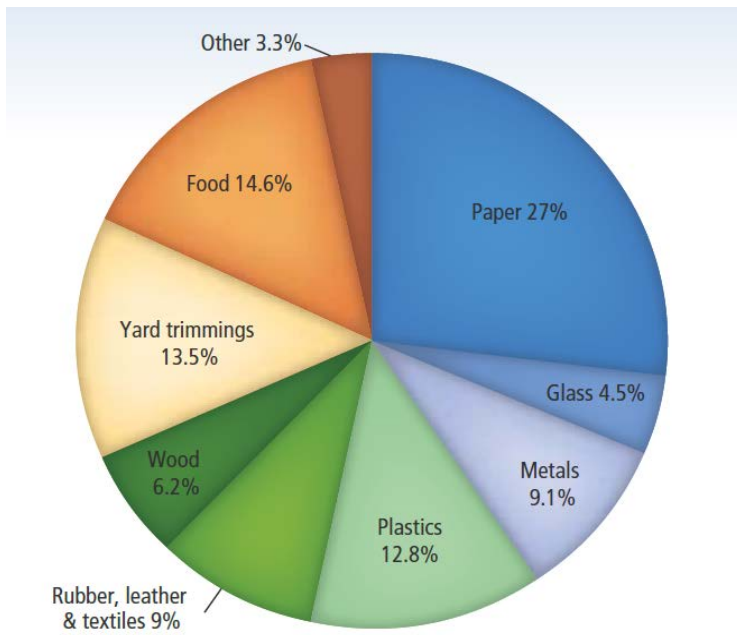
Likewise, recycling rates have improved over time, as depicted in Figure 2, below. Data show that while recycling activities in general have dramatically increased compared to the rates of the 1980s, the net

result today is that only about one-third of total MSW is recycled. For an individual perspective, in 2013, each citizen nationwide on average generated about 4.40 pounds of waste every day, with 1.51 pounds either recycled or composted.



EPA 2015b

Figure 3. Total MSW Generated, by Material in 2013 (Before Recycling) – Total: 254 Million Tons



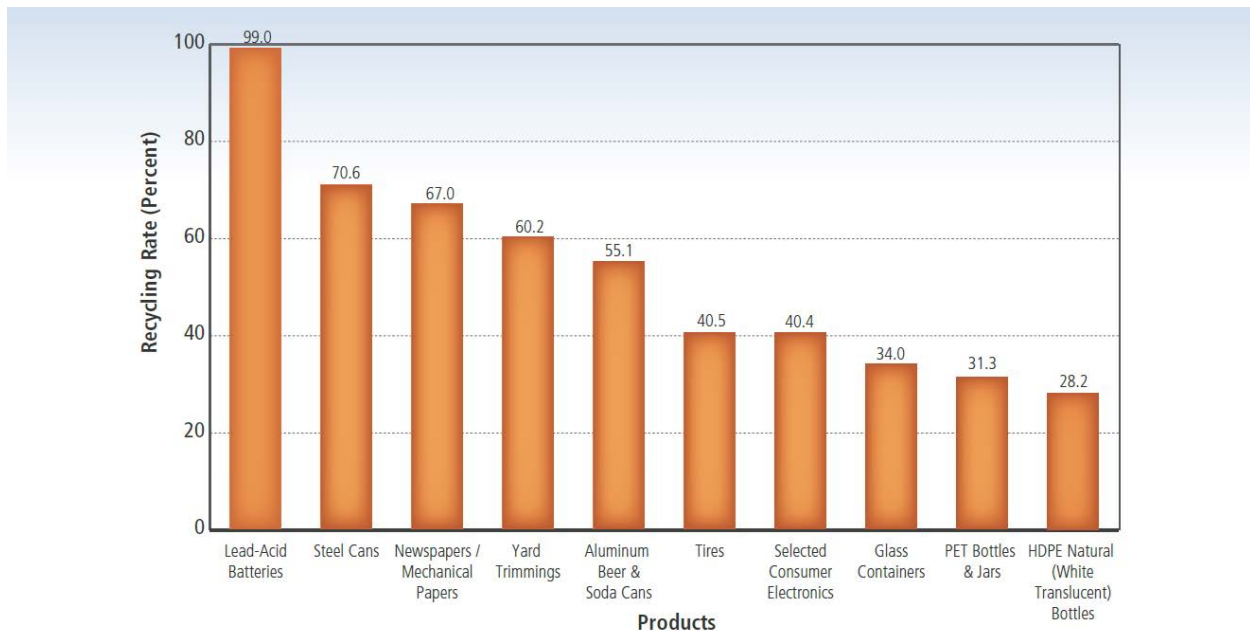
EPA 2015b

Figure 3 shows the components of the MSW stream. Plastic, metal, glass, and paper, all potentially recyclable, comprise about half of all MSW generated in the US. Another third is potentially compostable organic material – food waste, wood, and yard trimmings.

Figure 4 presents EPA estimates regarding the success of recycling and recovery of materials nationally. Car batteries are highest, because there are legal requirements and a network of business partners. Steel recycling is high because of strong resale markets and the ease of recovering ferrous metals. The national figure of approximately 35% recycling

means that many potentially recyclable or compostable products are being discarded to landfills.

Figure 4. Recycling Rates of Selected Products, 2013



EPA 2015b

Note: These data do not include combustion with energy recovery.

2.2 Solid Waste Management within the Thomas Jefferson Solid Waste District

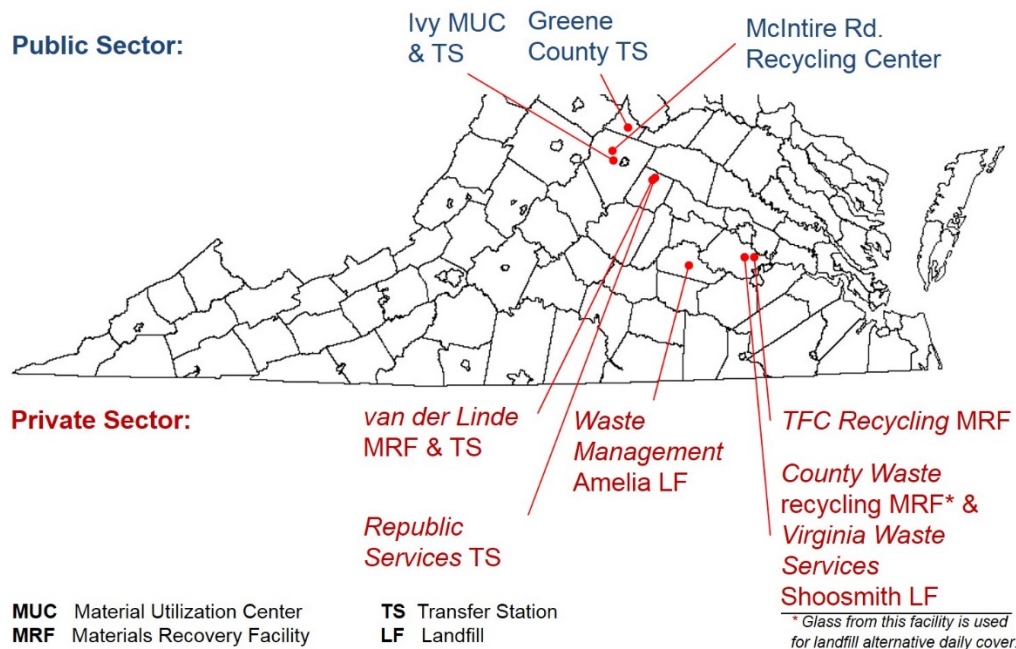
The Thomas Jefferson Solid Waste Planning Unit (SWPU #10) was created by the localities of Albemarle, Charlottesville, Fluvanna and Greene coming together to address solid waste planning on a regional scale. The Solid Waste Planning unit is administered by the Thomas Jefferson Planning District Commission and is funded by the participating localities. The SWPU is responsible under Virginia code 9 VAC 20-130 to develop and maintain a regional solid waste management plan. The plan is required to look at the region's solid waste and recycling needs 20 years into the future. Additionally, the SWPU is responsible for reporting an annual recycling rate to DEQ to ensure the SWPU meets the state statutory requirement of a 25% recycling rate. The data in the Recycling Rate Report is provided by haulers, transfer stations and major waste generators on a voluntary basis and is not audited. The District does not have the authority to compel reporting or enforce compliance. In 2013, residents in the TJSWD generated close to 230,000 tons of MSW. Based on the 2013 report roughly 80,000 tons of waste was diverted from landfills in the region, which represents approximately 39% of the total MSW stream (TJPDC 2014).

The SWPU is not a service district like Rivanna Solid Waste Authority and therefore does not control solid waste activities in the localities. Its role is long term planning and regional coordination on solid waste and recycling issues. In the past, the SWPU has taken on activities that have included information sharing, recycling education, and a regional solid waste resource website.

2.3 MSW Management Process and Facilities in Our Region

Figure 5 shows key MSW facilities in Albemarle and surrounding counties. Our neighbors in Augusta and Louisa have active county landfills for their residents. All of the MSW from our region is transferred to privately run landfills elsewhere in the state. At present, the two closest landfills that are the primary recipients of Albemarle County MSW are a Waste Management landfill in Amelia County and a Virginia Waste Services facility, the Shoosmith landfill, in Chesterfield County. Both are approximately 80 miles away from Charlottesville.

Figure 5: MSW and Recycling Facilities in Our Region



Greene County has a transfer station to serve local haulers, a facility similar to the RSWA’s transfer station at the Ivy MUC. Fluvanna County has a public convenience center but not a transfer station. Instead, they use the van der Linde Recycling and Container Rental (vdL) transfer station in Zion Crossroads.

The City of Charlottesville, with its greater population density and higher tax rate, has a more advanced recycling program. The City contracts with County Waste for regular curbside collection of commingled recyclables: paper, plastic, metal, and glass in one bin. The recycling goes to a County Waste recycling facility in Chester for sorting. The remaining MSW is handled separately by Waste Management and is delivered to vdL for mixed waste processing to recover some recyclables. City residents can also use the Ivy MUC for specialty services, and some also choose to use McIntire Recycling Center.

Appendix 1 shows the transfer stations and convenience centers in Albemarle and neighboring counties. Greene and Fluvanna counties each have one public center for MSW. Buckingham and Rockingham have five collection sites, Nelson has seven, Orange has eight, Louisa has nine and Augusta County has 11. Albemarle County collection sites are limited to the Ivy MUC and McIntire Recycling Center.

Remote, self-serve sites have two purposes. First, they provide a place for rural residents to take MSW when the area is too sparsely populated and rural for private garbage trucks to operate profitably. Second, they make source-separated recycling more convenient.

2.4 Solid Waste Management Process and Facilities in Albemarle County

2.4.1 Rivanna Solid Waste Authority

The RSWA was created in 1990 by Charlottesville and Albemarle County with responsibility for the solid waste services in the region. RSWA operated a landfill at Ivy until its closure in 2001, and now continues to be responsible for post-closure care of the landfill.

The RSWA operates a recycling center in Charlottesville at McIntire Road with several containers for self-sorting recyclables. McIntire Recycling Center (McIntire) employs source separation. When materials are kept out of the residential waste stream, they remain cleaner and as a result, have a much higher value to end-users compared to materials that have been combined with all wastes and are contaminated with whatever else was in the trash bag, collection truck, baler, etc. RSWA bales and sells these relatively uncontaminated recyclables, generating revenue and reducing landfill disposal costs. RSWA collected 1,882 tons of recyclables in 2014 (RSWA 2014).

RSWA operates a transfer station at the Ivy MUC, where private hauling firms can pay a tipping fee to unload waste collected from other businesses and residences. Individual residents may also drop their household waste at the Ivy MUC. There are also a variety of recycling services at the Ivy MUC, from scrap metal and appliances to tires, motor oil, brush and wood, and paper. RSWA recovers revenue from tipping fees, by selling mulch, and by selling recycled commodities.

RSWA operates a paper sort facility in Charlottesville. It is open for government and business use, with the general public directed to recycle paper at the Ivy MUC and McIntire. This facility separates and packs paper into bales for sale. Bales of separated cardboard and white office paper are worth far more than bales that mix both. Of the 1,882 tons noted above, 1,069 were paper and another 279 were cardboard. RSWA collected 107 tons of metal, 98 tons of plastic, and 249 tons of glass.

RSWA also maintains three paper collection receptacles: at Sam's Club on Route 29 North, behind Pantops Shopping Center, and in Scottsville beside the baseball fields and Boys & Girls Club. These sites are not staffed and are sometimes contaminated by other waste. They are also not widely advertised and therefore may not be used to their potential. Each site yields between 3 and 10 tons of paper recycling in an average month. These sites demonstrate some potential for operating limited remote recycling facilities.

The RSWA presents a materials analysis in its annual report. In FY 2014, the Ivy MUC facility handled 6,864 tons of MSW. During the same period, RSWA handled 3,091 tons of recyclable or reusable commodities, as indicated in Table 1. In FY 2013, 18,124 tons of MSW were handled at the Ivy MUC and 6,062 tons of recyclable or reusable commodities were diverted from landfills. Comparing the total materials managed by

Figure 6. A "small hauler" truck unloads MSW at the Ivy MUC.



RSWA in 2013, 24,186 tons to the 201,732 total MSW tons reported for Charlottesville and Albemarle in 2013 (TJPDC 2014), it can be concluded that RSWA processes approximately 12% of the total MSW generated locally. The combined recycled quantities for Albemarle County and the City of Charlottesville are reported as 70,516 tons for 2013. Thus, the RSWA-managed recyclable and reusable materials represent approximately 9% of the recyclable materials market share. Comparing the quantity of MSW handled by the Ivy MUC in FY 2014 (6,864 tons) and the recycling rate of both Ivy and McIntire (1,882 tons), approximately 21% of the total materials brought to RSWA facilities are recycled; this figure does not include reusable materials (brush, tires, etc.) but represents 3.7 million pounds of material diverted from landfills. Including the materials that are brought to the Ivy MUC and subsequently reused, the FY 2014 figure increases to over 12 million pounds of materials diverted from landfills.

The services RSWA provides generates some revenue, but the County subsidizes RSWA with annual support. For example, the County has earmarked approximately \$500,000 for RSWA operations in fiscal year (FY) 2016. It is clear that RSWA is not a significant player in the recycling market for the area, and while the possibility of high recycling rates is provided at their facilities, the current operational framework results in limited customers and reach.

In summary, RSWA has been and remains the legally authorized entity for partnership and consolidated services between Albemarle County and the City of Charlottesville. The authority remains responsible for landfill remediation for at least the next 15 years. RSWA has effective relationships with businesses and community residents, and a well-earned reputation for integrity and service.

2.4.2 University of Virginia

At the University of Virginia (UVA), individuals separate their recyclables at the source. UVA Recycling picks up, sorts, bales and prepares the recyclable materials for market. A small interior sorting area, with a baler, is used by UVA Recycling to separate commingled beverage containers. MSW and compost is serviced by outside contractors using exterior wheeled carts, front load containers and compactors.

Separate receptacles are provided for MSW, paper and beverage containers. The fiber materials, including white paper, mixed paper and cardboard, are separated by the user at the point of disposal to minimize contamination. The beverage containers are commingled and separated into distinct commodities by UVA Recycling. Composting is available in the "front" and "back" of the house at most dining facilities, with planning underway for a wider rollout. Many special events, such as Athletics, strive to reduce waste by promoting composting and substituting alternatives for landfill-bound products.

2.4.3 Private Enterprise

The majority of the County's waste is collected and transported by private hauling companies. Some are small local startups, and some are national-scale firms. Households and businesses in the County's urban ring can select from competing firms to best serve their needs. More rural areas of the County have fewer options for selecting hauling services. Household collection of MSW is most often from a single container provided by the hauler. Businesses have larger containers such as dumpster bins. Typically, there is a monthly fee for the collection service. The most common arrangement is to have mixed waste all in one can, without separating recyclables.

Garbage collection trucks, with two or three axles and loads of a few tons, are less profitable if they must travel long distances on highways to landfills, primarily due to the additional fuel costs, but also exacerbated by higher maintenance to vehicles as a result of the greater mileage accrued. Therefore an important intermediary step is the transfer station, where smaller loads are compacted into 40-foot containers or 50-foot trailers. Tractor trailer trucks then carry loads of about 22 tons to the landfill. In 2014, the Ivy MUC received 6,864 tons of MSW (RSWA 2014), which represents an average of approximately 27 tons per day based on their five day workweek and seven days of holiday closures during the year. Greene County has a public transfer station, also at a former landfill, which accepts some Albemarle County waste, which is then transported to the Amelia landfill operated by Waste Management. The privately operated vdL transfer station in Zion Crossroads serves a larger region and is the likely transfer point for most Albemarle County waste. Many of these transfer stations charge the hauler a tipping fee to unload waste, then they pay another trucking firm to carry the waste to a landfill, such as the one in Amelia County. Van der Linde operates their own fleet of trucks for transport of SWM to a landfill, which currently is the Shoosmith Landfill, in Chester, VA.

Van der Linde operates a mixed waste processing facility, commonly termed a “dirty” materials recovery facility (MRF). Magnets, fans, and workers are used to extract recyclable materials from the mixed waste. In the most recent filing to Virginia DEQ, this facility reported a diversion rate of 21 percent (vdL 2015). Recent upgrades to the facility may increase this diversion rate.

Charlottesville has Public Works contracts for separate collection of MSW and recycling from residences. This is known in the industry as “single stream” recycling. Commingled recyclables such as paper, glass, plastic, and metal are collected in one bin, at no direct cost to residents. MSW is collected from another can, with a user fee applied. This MSW fee funds both the MSW and recycling services. By making the recycling free and charging for MSW, this fee system encourages users to save money through greater recycling. The single stream contractor takes the recyclables to the County Waste, LLC MRF in Chesterfield County, which is a commercial recycling center that does not process mixed waste and is referred to as a “clean” MRF. The City subsidizes this system partly because it achieves higher recycling rates due to lower levels of contamination compared to a mixed waste system (Charlottesville 2015).

Another option for recycling is source separation, where recyclables are kept separated from MSW at the point of generation (households) in order to ensure the materials are minimally contaminated with wastes and therefore maintain a higher market value in reprocessing. RSWA provides source separated recycling options, as described in section 2.4.1 and 2014 figures are presented in Table 1.

Table 1. 2014 RSWA Recycling Information

Commodity	Tons Collected	Processing Firm/Destination	Some commodities produced
Plastics	98	Sonoco, VA (various)	Plastic for reuse in manufacture
Plastic film		Trex – Winchester, VA	Decking
¹ Glass	249	Reflective Recycling – Wilson, NC	Bottles & fiberglass insulation
Metal cans	34	Roanoke Metallica / VA	Shredded & resold to manufacturer
White goods (scrap metal)	73		
Cardboard	279	Sonoco, International Paper, Greif/ VA	Cardboard remanufactured
Newspapers, magazines, catalogs	640		
Mixed paper & phone books	265		
Office Paper	164		Paper remanufactured
Vegetation	2,016	Onsite mulching operation	Mulch
Pallets	71		
Tires	92	Used tire dealers, Royal Pride Mats, Emanuel Tire/VA Overseas	Resale, mats, recycled Resale
Total	3,981		

Source: RSWA 2014

¹Glass includes glass crushed and reused on roads at Ivy MC

The amount of material recycled or composted, combined with the MSW received in 2014 totals 10,845 total tons of material processed through RSWA, with recycled/reused materials representing approximately 37% of the total materials.

Figure 7 shows the full range of recycling options that currently exist within our region, from “All in one can” to source separated recycling, with an indicator of the quality of recycled material as a result of using each of the three primary methods in use.

Figure 7. Three Recycling Methods Currently in Use in the Region



**Often incorrectly referred to as "Single Stream" within the City and County*

All-in-one uses Mixed Waste Processing at a Material Recovery Facility (often referred to as a "dirty MRF").

- Requires no sorting
- Typically lowest recovery rates due to contamination

Single Stream requires households to separate recyclables from trash, which are then sent to what is often referred to as a "clean MRF" for further sorting.

- Requires sorting commingled recyclables from trash
- Helps communities to incentivize recycling

Source separation requires sorting by type by the consumer.

- Preferred by recyclers
- Lowest contamination

PR&A/Adapted by Green Blue & BWB

Compostable packaging, wet or soiled paper, food waste and yard trimmings can be composted locally. Currently food waste collected for composting from UVA, some City of Charlottesville and Albemarle County Public Schools, restaurants and grocers goes to a commercial facility, Black Bear, in Crimora, Virginia. An unknown number of Albemarle County households compost in their backyards or feed food scraps to animals, keeping waste out of landfills.

Locally, yard and wood waste are kept out of landfills through mulching operations at the Ivy MUC and privately operated mulching operations such as Panorama Farm, which accepts the City's leaves each fall which are used to create a commercial compost product, "Panorama Paydirt."

Our regional recycling rates could increase significantly from food and yard waste composting because little recovery is now occurring, and the majority of this material goes to landfills. The Committee agrees with the analysis provided in a report prepared by students of the UVA Batten School on the regional benefits of composting (UVA 2015):

"Paper is the single largest part of the MSW stream and not always recycled locally. The best value added to the local MSW system may be to improve recycling of paper and to expand

composting of organics, both food waste and vegetative waste. The RSWA appears well suited to support these changes.”

Beyond recycling and composting, other items can also be diverted from landfills. These niche services are often significant for their environmental impacts. RSWA collects appliances (“white goods”) to recycle metal after removing any refrigerants. Scrapped cars can yield considerable recyclable material, and both RSWA and local shops help recycle motor oil, antifreeze, and tires. Electronic waste is an increasing part of the waste stream, and some local retailers such as Best Buy and Crutchfield help with recycling. Pharmaceuticals are another problematic waste, potentially unsafe to the water supply, and there are few local options for their safe disposal. Most other household hazardous waste (HHW) is handled by RSWA through contractors during two special weekends for HHW disposal at the Ivy MUC.

Reuse is another valuable means of keeping resources out of landfills. Thrift and consignment stores, including Goodwill, Salvation Army, CASPCA and the RSWA’s Encore Shop at the Ivy MUC; the book nook at McIntire; the local Habitat for Humanity Store and even yard sales play an important role in keeping used but still useful books, furniture, clothing, building materials and other household goods out of landfills.

In summary, the current waste management system in Albemarle County relies mainly on the private sector for collection, reuse, recovery, and disposal services. RSWA provides niche services for many residents but has limited MSW and recycling services at the Ivy MUC and McIntire facilities. Most county residents and businesses have mixed waste collection contracts with private haulers. This system has some recycling recovery at the vdL mixed waste processing and transfer facility. The City and UVA have established different practices from the County in order to achieve higher levels of diversion from landfills. Commercial composting is used extensively by UVA, and is a growing practice in area schools and among restaurants and grocers, with significant potential for growth in our area.

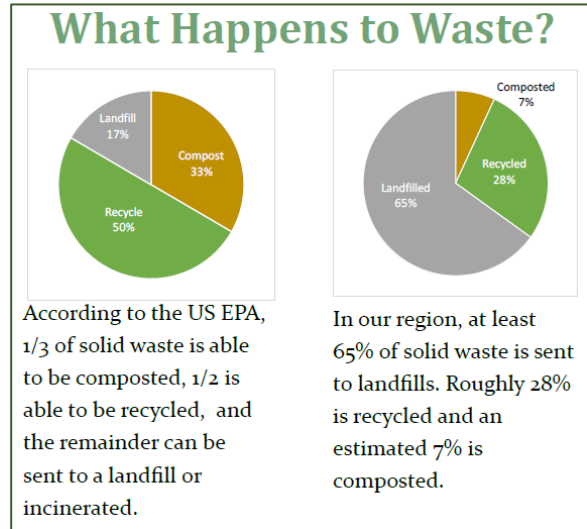
3 Issue Identification

Generally, the issues that the Committee has worked on can be concisely addressed in the following statements:

1. The enormous amount of waste generated in this country results in problems such as pollution, resource losses, and greenhouse gas emissions that drive climate change. Communities can be driving forces to implement solutions.
2. The County’s MSW public services, which are operated by RSWA, have not seen investment to update our only transfer station or to further SMM.
3. Advertising, marketing and signage by private haulers and waste management firms has suggested to Albemarle County residents that mixed waste processing is an effective primary recycling method.
4. There is a vital need for SMM to remain affordable and accessible, and to therefore discourage illegal burning and dumping.
5. There are a lack of metrics and accurate data for management activities involving Albemarle County MSW.

As a result, the Committee began to hone the larger issues into smaller, addressable issues for which policies could be developed and strategies identified for financial and timeframe planning. These include:

- Reduce waste and increase the efficient and sustainable use of resources:** The Committee and much of the public believes that too much local waste, over 100,000 tons annually, gets buried in landfills elsewhere in the Commonwealth, creating environmental liabilities far into the future. The charts at right show the policy choice: whether and how to shift from the mostly landfill graph at right to the minimal landfill graph at left.



- Increased recycling:** part of the waste problem relates to individual decisions of what to consume and throw away. Another is that the local recycling rate, reported at 35%, is too low. The community should strive to throw out less, recycle more, and reuse wherever possible.
- Risk of monopoly:** in the past, the market for private hauling services has been competitive among small and medium-sized firms. But in recent years, technological improvements have increased the costs for both capital investment and competition and increased barriers to entry. Large firms have rapidly consolidated with acquisitions of smaller rivals. This creates monopoly risks, limiting innovation and increasing price, especially in smaller or more rural markets. Maintaining a public facility to preserve choice and competition in services is valuable.

“The top two companies, Waste Management and Republic Services accounted for 39 percent of total industry revenue. All of the publicly traded companies together comprised 61 percent of total revenues. All told, the private sector represents 78 percent of the industry while the municipal sector controls the remaining 22 percent. This is a sharp contrast to 1992 when municipalities controlled 35 percent of industry revenue.” (Waste Business Journal 2012)

- Rural services:** Important segments of Albemarle’s population live in remote rural areas. Residents have reported anecdotally and in surveys that large hauling firms do not serve these areas. Historically, composting and burning helped rural residents reduce their MSW volume. Open burning of MSW has been regulated by Albemarle County ordinance for 25 years (Albemarle County 1989). Some rural residents self-haul their MSW to the Ivy MUC and McIntire. Small haulers can operate more sustainably if they have nearby transfer station facilities to reduce their fuel and labor costs. If rural areas are not well served by private haulers or public facilities, there is a risk of increase in illegal dumping or illegal burning.
- Special services:** There is also a public interest in preserving and enhancing certain specialty services in MSW management.
 - Home service:** Some residents, including the elderly and persons with disabilities, prefer or require in-home or back-door pickup of MSW and recycling, rather than having to haul a large bin to curbside. In the rural areas, long driveways exacerbate this problem. Aging in place and maintaining independent living are important human services goals, and supporting a marketplace of private haulers to provide this service is important. Table 2 below shows the

projected increase in Albemarle County’s elderly population, which is estimated to grow faster and above the statewide rate.

Table 2. Projected Increase in County and State-Wide Elderly Population

Location	2013	2020	2030
Albemarle Co population 65+	16,480	21,617	29,861
% Albemarle Co population 65+	16.0 %	18.7 %	22.3 %
Virginia population 65+	1,106,894	1,359,168	1,767,340
% Virginia population 65+	13.4%	15.4%	18.3%

Source: Weldon Cooper Center (XXXX)

Additionally, there are a number of neighborhood areas where the roads are privately maintained by HOAs and as a result, traffic from the heavy vehicles operated by the large haulers is avoided in order to maintain the roads in good condition. For this reason, small haulers provide a valuable service to these neighborhoods.

- **Household hazardous waste:** Disposal of hazardous waste is heavily regulated for environmental quality. Businesses which generate such waste pay for its proper disposal. Residents have few options. The RSWA has disposal days twice annually, but limited service options may result in illegal disposal and pollution in local waterways or landfills. Surveys and public events report demand for increased frequency and convenience of HHW collections.
- **Electronics:** E-waste is a growing component of the waste stream, as wired devices become more common, quickly obsolete, and more disposable. There is some recovery value in metals, but toxic substances also require careful disposal. The MSW stream is not appropriate for e-waste. Local options for reuse and recycling can be identified and enhanced.
- **Pharmaceuticals:** Like chemicals and electronics, drugs need special disposal to avoid pollution. Sewage treatment systems are not designed to remove these drugs from the water being treated. Disposing of drugs in the trash or down the drain results in contamination and health risks. There are few local options for safe disposal.

4 Committee Study Process

The Committee learned about existing waste management services and facilities in the County, and how they compare with those at UVA and in the City. Committee members read and discussed consultant reports from GBB and Draper Aden assessing County options, as well as articles and news about waste disposal, recycling and composting. Members of the Committee visited landfills, MRFs, transfer stations and convenience centers in Greene, Nelson, Augusta, Fluvanna and Chesterfield, and had the opportunity to meet personnel at these facilities and discuss aspects of their operations in detail. The Committee benefited from the expertise of some members who have professional experience in sustainable materials management and waste hauling. The Committee also prepared survey questions and conducted a stakeholder meeting and an open house to seek public input on issues related to waste management and recycling in the County. The Committee participated in facilitation sessions to reach consensus on recommended SMM policies and strategies.

4.1 Results of Work with the Institute for Environmental Negotiation

The Committee contracted UVA's Institute for Environmental Negotiation to facilitate evaluation of policy options. Through the course of two half-day retreats, committee members synthesized the best available data and considered options using a wide range of criteria. An example of the variety of options evaluated by the Committee can be seen in Figure 8 below, where consensus support was strongest for increasing recycling opportunities, upgrading the Ivy MUC facilities with enhanced recycling, improving special collections, and supporting waste reduction and reuse programs. Options that would close or remove some or all facilities at the Ivy MUC were not recommended. The summary results are shown on the following page in Table 3.

Figure 8. Committee Consensus on the Ivy MUC

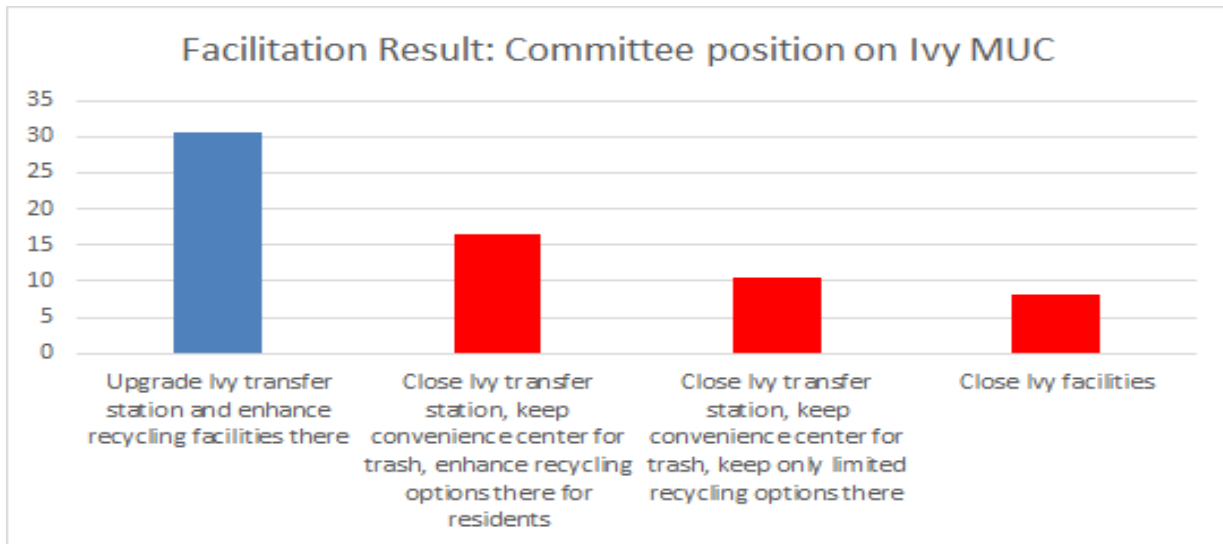


Table 3. Weighted Evaluation of Options Evaluated by the Committee at Facilitated Meetings

Evaluation Criteria:	Right thing to do	Least Harm Globally	Environmentally Sustainable	Able to phase in	Meets Constituent Needs for Services	Meets Comp Plan	Politically Feasible	Feasible with state/fed regulation	Long-Term solution	Can Measure Success	Creates Jobs	Financially Feasible	Total
Weight (1-5):	5	5	5	5	4	4	3	3	3	3	3	3	-
Options evaluated:													
Increase recycling opportunities	2.9	2.8	2.9	2.8	2.7	3.0	2.9	2.9	2.8	2.6	2.1	2.5	32.9
Upgrade Ivy transfer station and enhance recycling facilities there	2.5	2.7	2.8	2.4	2.8	2.7	2.1	3.0	2.6	2.8	1.9	2.2	30.5
Continue/increase special collections such as household hazardous, e-waste, and pharmaceuticals	2.8	2.5	2.6	2.9	2.9	2.8	2.4	2.6	2.7	2.8	1.4	1.8	30.2
Continue/support source reduction and reuse programs	2.9	2.5	2.9	2.7	2.3	2.6	2.5	3.0	2.7	2.1	1.5	2.3	30.0
Decrease material going to Landfill	2.8	2.5	2.7	2.3	1.8	2.6	2.5	2.6	2.6	2.4	1.6	2.6	29.0
Develop an outreach/communications campaign	2.9	2.3	2.2	2.1	2.1	2.6	3.0	2.7	3.0	2.1	1.0	2.7	28.7
Establish/Enhance food composting opportunities	2.3	2.0	2.6	2.7	1.9	2.5	2.0	1.8	2.7	2.6	1.6	1.9	26.6
Improve data and metrics	2.5	2.0	2.0	1.1	1.8	2.8	2.6	2.2	2.9	2.8	1.1	2.6	26.4
Close Ivy transfer station, keep convenience center for MSW, enhance recycling options there for residents	1.2	1.1	1.3	1.1	1.2	1.6	1.4	2.1	1.2	2.1	0.9	1.3	16.5
Close Ivy transfer station, keep convenience center for MSW, keep only limited recycling options there	0.5	0.4	0.4	0.5	0.6	0.7	1.1	2.0	0.8	2.0	0.6	1.0	10.6
Close Ivy facilities	0.3	0.3	0.3	0.3	0.4	0.4	0.7	2.0	0.6	1.5	0.3	1.1	8.2

1 4.2 Public Surveys

2 The Committee emphasized public opinion research, gauging satisfaction with current services and
3 desire for specific changes. In 2006 and 2008, citizen surveys conducted by the Weldon Cooper Center
4 for Public Service found that recycling was rated very important to a substantial percentage of County
5 residents – 73% and 75%, respectively (Weldon Cooper 2009). In the 2008 survey, the results indicated
6 that provision of recycling services was ranked 13th in importance out of 34 services and 67% favored an
7 increase in recycling services. At the same time, satisfaction with the current services was ranked 34th.

8 The 2013 National Citizen Survey for Albemarle County (NRC 2013), the rating of recycling services in the
9 County were rated below the national average, though above NRC-selected university communities and
10 peer localities. The quality of the services currently provided were rated ranging from excellent (25%),
11 good (47%), fair (21%) and poor (7%).

12 Finally, a recent survey (Weldon Cooper 2015) demonstrates that recycling remains highly valued by
13 70% of the respondents. This survey also specifically asked if a source separation recycling center was
14 conveniently located, would residents use it. The survey results indicate that 70% of the survey
15 respondents would use such a facility.

16 A large majority of residents are supportive of increased recycling, but a small segment of County
17 residents participate in high-recovery practices such as self-sorting at McIntire or the Ivy MUC, as
18 evidenced by the 2014 RSWA figures.

19 4.3 Open Houses

20 The Committee also held public events to engage in more sustained dialogue. On December 16th, 2014,
21 a stakeholder roundtable attracted 23 representatives from businesses and community groups. On April
22 29th, 2015, committee member Rick Randolph made a presentation on the Committee’s work at the
23 Neighborhood Leadership Summit, with about 60 active citizens attending. Mr. Randolph made a rapid
24 straw poll. Only 8 reported using McIntire. However, half had been to Ivy for occasional services. About
25 40% would like to use a free composting site to deposit organic wastes. About 50% would like to have
26 and use a new recycling center at a more convenient location.

27 The Committee held a larger, open house community event at the 5th Street County Office Building on
28 June 4th, 2015. Approximately 50 residents attended, representing a diverse range of neighborhoods,
29 opinions, and recycling practices. Key points of public feedback included:

- 30 ● Source separation is preferable to mixed waste processing where practical.
- 31 ● Most in attendance preferred to see Ivy as a “one-stop-shop” center for resident services,
32 including composting and e-waste. There was little comment on transfer station facilities, just
33 one note that mixed waste hauling might be effective.
- 34 ● Composting collection should be offered at Ivy. Smaller compost collection points suggested by
35 the public participants included McIntire, Mill Creek, or Hollymead.

36 4.4 Report by Students of the Batten School of Leadership and Public Policy

37 Another contribution to the Committee’s broad research work came from UVA’s Batten School of
38 Leadership and Public Policy. County staffer Matt Lawless recruited a team of four graduate students for
39 a field project in Applied Policy Analysis, a program requirement for public policy. They conducted

1 independent research, site visits, and interviews, presenting conclusions to the Committee on April 21,
2 2015. Committee members contributed substantially to help the students, reviewing drafts, making
3 corrections and asking questions about how they reached their conclusions. Their 35-page report,
4 *Recycling Rates in Albemarle County*, established the benefits of increased recycling and evaluated four
5 options to increase the recycling rate. The team’s independent conclusion was, “We recommend
6 establishing four new neighborhood recycling drop-off locations and implementing a public awareness
7 campaign entitled ‘Keep Albemarle Beautiful.’” This analysis attempted to optimize the values of
8 recycling effectiveness, cost efficiency, public buy-in, and political feasibility. The Committee is grateful
9 for the students’ enthusiastic support.

10 5 Recommended Policies, Practices and Implementation Strategies

11 The following subsections detail the policies and practices that the Committee is recommending to the
12 BoS for incorporation into County planning processes. Each of the subsections represents a primary
13 policy or practice area selected for recommendation along with information gathered by the Committee
14 for consideration on implementing the policy or practice. As a part of the facilitated discussions, the
15 Committee identified individual strategies that would address the targeted policy or action and help
16 drive the implementation process. They are identified here in each subsection, with expanded
17 discussion to address the Committee’s priorities and/or concerns. It should be recognized that overlap
18 necessarily exists regarding some policies and practices. Segregation into subsection discussions should
19 help delineate where common goals are nuanced to specific policies and practices.

20 5.1 Establish a Standing SMM Advisory Committee

21 Charter and appoint a standing SMM Advisory Committee for coordination and outreach. The County
22 maintains permanent advisory boards or committees for a number of key policy areas: Fire Rescue,
23 Social Services, Historic Preservation, and Natural Heritage, among others. Such boards lead ongoing
24 citizen engagement, convey information to staff and the Board of Supervisors, and serve to liaise with
25 other stakeholders including businesses and units of government. The Long Range Solid Waste Solutions
26 Advisory Committee began with a temporary charge, yet ongoing community outreach and volunteer
27 support to the County staff is appropriate. Many of the Committee members are willing and eager to
28 continue their service in an ongoing capacity. A recommendation for membership of a standing SMM
29 Advisory Committee has been included in Appendix 7.

30 5.2 Create and Staff an Albemarle County Materials Management Office

31 To lead these priority actions, authorize and staff a SMM Coordinator in the County’s General Services
32 Department. The wide range of strategies recommended in this report demand a focal point within
33 County government to provide coordination and leadership. The SMM Committee needs staff support;
34 community partners need a liaison; contracts need to be written, managed, and executed. This work is
35 beyond the scope of existing support staff in the County Executive’s Office and in General Services, the
36 current environmental management capacity of which is highly skilled but overloaded. Therefore, the
37 committee recommends funding and recruiting a position comparable to the existing Environmental
38 Compliance Manager to enhance existing programs and advance these strategies. A few initial projects
39 for coordinator could include:

- 40 • Develop and share a Green Purchasing Policy to reduce waste in purchased goods.

- 1 • Pilot a compost program, perhaps linking a fire station’s food waste to a nearby park.
- 2 • Help the SMM committee to design and publish educational materials.
- 3 • Support RSWA’s expansion of services.
- 4 • Recruit and support department champions from County staff to lead recycling in office buildings.

5

6 5.3 Increase Recycling Opportunities and Activities in Albemarle County

7 Increase the days and hours of operation at the Ivy MUC and McIntire facilities. The current limited
8 operating hours make recycling inconvenient or impractical for residents. McIntire is open from 8:30 am
9 to 5:20 pm Wednesday through Friday, 9:30 am to 5:20 pm on Saturday, and 12:30 -5:20 pm on Sunday
10 afternoon. In Charlottesville and Albemarle County, there are no drop offs for recyclables available on
11 Mondays, Tuesdays or any evenings. The RSWA has limited capacity in its management staff, but routine
12 operations are completed by part-time and temporary staff which can be increased more flexibly. The
13 County could negotiate and plan with RSWA what extension of hours at the Ivy MUC and McIntire could
14 be achieved through an increase in annual funding.

15 [Launch a public discussion of where \(and when\) additional recycling centers could be established in the](#) 16 [county.](#)

17 The Committee considered practices in neighboring counties, such as a network of recycling centers
18 providing convenient services to residents around the county. Nelson County, for example, operates
19 multiple staffed collection centers and one transfer station, with a hauling contract from the station to a
20 regional landfill in Campbell County that serves the Region 2000 Services Authority. McIntire has a good
21 central location where many people work, and the Ivy MUC is close to some western, southern, and
22 rural communities, but many residents in both urban and rural areas are not ideally served by these two
23 facilities. Improvements to the existing facilities and services, plus continuing community dialogue, can
24 help identify if there is sufficient demand for recycling centers in other parts of the county.

25 [Demonstrate County buy-in through self-implementation.](#)

26 Lead by example through County self-implementation of SMM. The County can and should serve as a
27 model at its facilities and with its personnel. At present, County buildings have mixed waste disposal and
28 negligible recycling. Leading by example involves budgeting for increased bin and liner costs and
29 coaching employees on source separation. The County can incorporate many aspects of the system
30 currently used by UVA, which has advanced recycling on campus in order to simultaneously reduce cost
31 and environmental impact. One way is to discourage individual waste receptacles and encourage
32 centralized MSW, compost and recyclable collection in common spaces such as kitchens, copy areas and
33 lobbies. In the same spirit as the open office floorplan, centralized waste is more efficient because it
34 moves from individual, overlapping services to shared infrastructure. This increases diversion by asking
35 building occupants to bring their waste to a central area where source separated containers are
36 provided, removing the incentive to "throw it in the nearest can." It also reduces housekeeping labor
37 costs because it greatly reduces the number of containers to service.

38 [Prepare a County plan that delineates specific SMM goals over time and establishes the metrics to gauge](#) 39 [success/change.](#)

40 Albemarle County will continue to participate in the Thomas Jefferson Regional Solid Waste Planning
41 efforts by providing input for plan updates and adopting the plan in accordance with state code. By

1 participating in these efforts, the county will collaborate on the development of regional and county
2 specific performance measures that will benchmark and assess efforts in recycling and implementation
3 of the waste hierarchy.

4 The County should develop a plan that benchmarks current levels of recycling and measures progress
5 with introduction of recommended SMM strategies. An increase from the present rate to a higher rate
6 should be evaluated and implemented, looking at both near term and longer term targets. Further
7 improvements should be identified as part of Albemarle County’s Environmental Stewardship Plan for
8 future years and incorporated into the County’s long-range sustainability planning.

9 [Encourage HOAs to contract private haulers in order to increase source separated material.](#)

10 Currently there is a plan to institute single stream recycling at Glenmore starting in October 2015. There
11 are no other HOAs in Albemarle County receiving single stream curbside recycling service, because most
12 private haulers only offer all-in-one-can service. County Waste LLC, which has the contract for the City’s
13 single stream curbside program, is the company providing Glenmore the single stream service. One
14 other company, Republic Services, will provide single stream curbside recycling service but only if an
15 entire HOA contracts for it, because driving long distances to service individual residents across the
16 County is not financially viable. At this time, the Committee is not aware of any HOAs using Republic
17 Services for single stream recycling services.

18 Providing information to HOAs about the effectiveness of different recycling systems may encourage
19 them to bring single stream or source-separated recycling to their neighborhoods. Ensuring that the Ivy
20 MUC can accept single stream recycling for processing will give small, independent haulers the ability to
21 offer recycling services to HOAs as well, furthering SMM in the County.

22 5.4 Institute and Support Education and Outreach Programs

23 [Establish an ongoing education program for the community in schools and at large.](#)

24 Teaching our children about the waste hierarchy (reduce, reuse, recycle, dispose) and SMM during their
25 school years is a practical way to introduce good habits regarding resource usage and disposal. This is an
26 area where the County can lead by example, reintroducing separation of recyclables from the waste
27 stream in our schools. Some county schools already have composting programs; more schools could add
28 composting and make it a part of their science curriculum. Albemarle County Public Schools has recently
29 been awarded a grant from a Virginia company to bring commercial composting and project-based
30 learning to the western feeder pattern.

31 Likewise the broader community needs a better understanding of the benefits of SMM and how we can
32 increase recycling, expand composting, and continue to assure the safe disposal of hazardous wastes.
33 Printed materials, signage, public service announcements and direct outreach can all be used to make
34 the public aware of best practices and available services to further SMM goals in the County.

35 [Ensure that uniform and correct terminology is used in marketing and educational materials.](#)

36 Misunderstanding of recycling industry terminology in our area has caused widespread confusion among
37 residents and businesses about services and claims. For example, single stream recycling is defined by
38 the EPA as a collection program that allows, “participants to put all recyclable materials (e.g., paper,
39 bottles, cans, etc.) into one collection container” (EPA 2015c). In our area, however, many haulers that
40 provide all-in-one-can service have suggested through advertising and other means that they provide
41 single stream service as defined by the EPA. Through its outreach and educational materials, the County

1 should help residents understand the effectiveness of different systems and what type of service they
2 are receiving.

3 [Coordinate education program with the City, TJPDC, and other possible partners. Develop a unified
4 message.](#)

5 An ongoing educational program will be most effective if it is designed in partnership with other
6 organizations with recycling objectives so as to consistently reach constituents and benefit waste
7 disposal and materials management objectives throughout the region.

8 The County should communicate with HOAs, haulers, property managers and businesses about its SMM
9 objectives. The County should encourage best practices for materials management and disposal, and
10 help residents and businesses determine how to improve their practices and access available services.

11 5.5 Upgrade the Ivy MUC

12 [Create a model transfer/recycling center to demonstrate how the recommended facility and program
13 can operate cost-effectively.](#)

14 The committee recommends a model recycling center, similar to McIntire, for residents' use at the Ivy
15 MUC, as well as an efficient, durable, environmentally compliant transfer station for ongoing services.
16 The recycling center should be located in a separate area at the Ivy MUC from the transfer station, such
17 that it serves as a clear model for consideration elsewhere in the county. The transfer station tonnage is
18 not expected to reach 150 tons per day, even if another recycling center is built later - and the new
19 facility can be scaled appropriately.

20 A transfer station is a necessary element of the Ivy MUC, providing the County with a hub for SMM
21 activities and reliable and affordable transfer of waste for landfill disposal. In December 2014, the
22 Committee reviewed a report (Draper Aden 2014) prepared for the BoS regarding options for the Ivy
23 transfer station. The BoS asked the Committee for their response to the report. The Committee passed
24 the following motion unanimously:

25 *"To facilitate the work of the committee, the BoS should move forward with the proposed new
26 transfer station at Ivy. The committee supports the development of new transfer station facilities
27 and new recycling center capabilities at the Ivy location. In addition, the committee recommends
28 the Board explore options for the management and services of these facilities."*

29 The Committee envisions a user-friendly and efficient transfer station design that eliminates long waits
30 and the kind of mechanical problems that occur with the existing aged equipment. The operating costs
31 for a transfer station would be partially offset through tipping fees charged to residents and haulers,
32 plus the sale of recovered recyclables. Such a facility is expected to require a public subsidy, just as the
33 RSWA facilities do at present. Together with the many other public services provided at the Ivy MUC, the
34 transfer station is integral to a comprehensive SMM program. Additionally, the ability for independent
35 haulers, businesses and residents to deliver source separated recyclables to Ivy for recycling is an
36 important means of making SMM services available to all residents of the county.

37 Specific needs for the model recycling center include bins for source separation of metal, glass, plastics,
38 cardboard, white paper, other paper, compostable organics, and electronic waste. Contractors would
39 process the compost and e-waste. A compactor or other device could accept bagged MSW, perhaps for
40 a "tag a bag" fee. There should be donation boxes for clothing, such as those from Goodwill, and the

1 Encore shop should continue its operations (currently it is open on three sides—it might be well to
2 enclose one or two walls). There should also be bins and storage areas to collect bulk metal, white goods
3 (appliances), and tires. Vehicle scales are not needed for these aspects of the recycling center. The clean
4 fill service and vegetative waste mulching operations at Ivy should also continue: these services, along
5 with the transfer station, will use the vehicle scales.

6 [Establish an area/strategy for some source separation of commercial waste transferred at Ivy \(e.g.
7 sorting floor and “mini-MRF” process\).](#)

8 Establish an area and/or strategy for some source separation of recyclables from commercial waste
9 received at the Ivy MUC. As discussed previously, the Ivy MUC facility has only very basic capacity to
10 handle and recover separated recyclables from commercial waste. Mixed waste from small haulers is
11 compacted and landfilled without significant recovery of recyclables. The facility upgrades described
12 above include a covered concrete sorting floor with sorting tables and carts where some recovery could
13 occur by hand and using power equipment –for example, large pieces of dry cardboard pulled from a
14 load and recycled. This kind of simple sorting area is part of the improved transfer station design.

15 5.6 Expand and Increase Special Collections

16 [Develop a pharmaceutical diversion program.](#)

17 One example of a niche service for study and implementation is secure drop-off of pharmaceuticals’
18 disposal as at rxdrugdropbox.org. Disposal services exist to transport waste pharmaceuticals and
19 incinerate them. A secure drop-off box could be placed at the Ivy MUC or at secure sites such as the 5th
20 Street County Office Building or Fire Rescue stations in the urban or rural areas.

21 [Consider a door-to-door HHW collection program.](#)

22 In other parts of the country, some private firms, such as Waste Management Inc., offer door-to-door
23 collection of HHW. Potentially, door-to-door HHW service could be provided in dense residential areas
24 through homeowner association (HOA) fees or rents. The SMM committee could conduct research to
25 gauge community interest and could provide outreach and education with neighborhood groups.

26 [Better align hazardous materials and universal and electronic waste disposal at recycling centers.](#)

27 McIntire and the Ivy MUC currently provide many services for recycling and disposal, but there are some
28 conspicuous gaps. The County can renegotiate RSWA operational funding to provide additional services
29 to address these issues. Adding niche services will make the other existing services more appealing. The
30 Ivy MUC should offer regular paint disposal year-round, and should also have routine collection bins for
31 electronic waste. Standard universal waste items that should be collected include batteries and compact
32 fluorescent lightbulbs.

33 Increasing the range of recyclable products accepted at RSWA facilities would entail procuring
34 containers, providing for handling either by RSWA staff or a contractor, and marketing the new service.

35 As the model recycling center develops at the Ivy MUC, the SMM Committee can study and implement
36 better alignment of HHW and universal waste services at recycling centers. There should be careful
37 ongoing study as to fees for service and central or remote locations for disposal.

1 5.7 Foster Rural Services

2 Carefully plan and establish recycling locations in more distant areas of the County.

3 Such recycling centers would be staffed and would prioritize source-separated recycling, but they could
4 also provide MSW collection and perhaps some specialty services such as a reuse/swap area or donation
5 boxes, e-waste collection, or collection of tires or paint, depending upon the community’s needs.
6 Determining the best location and service level will be an important collaboration between county
7 residents, the SMM Advisory Committee and County staff in the coming years. Appendix 1 shows the
8 larger number of collection centers in the surrounding counties.

9 Create a framework for enhanced (any) curbside services in the County.

10 The County should help ensure that small independent haulers can offer recycling service to their
11 customers. Currently larger commercial haulers do not provide service to more rural areas as it is not
12 profitable for them due to fuel and time costs, but some smaller haulers could offer this service if there
13 is somewhere that could accept the recyclables and MSW that is in proximity to their service area. A
14 small hauler servicing rural residents should have the ability to offer single stream recycling: upgrades to
15 the Ivy facilities could ensure this for parts of the County.

16 5.8 Evaluate Costs and Assess Policy/Practice Economic Impacts Using Recognized,
17 Established Metrics

18 Factor in cost of capital and operations over lifetime for each policy or practice carried forward for
19 further evaluation. Identify taxpayer cost, user cost, and externalities where known.

20 Moving forward to expand and implement a SMM program requires the incorporation of many factors
21 in order to determine the real cost of the program. Some of these factors, such as capital improvements
22 and labor costs, are relatively straight forward. Other costs are either variable or are external to the
23 basic operations and thus are much harder to quantify, yet these can be just as important, i.e.,
24 greenhouse gases emitted from a landfill or jobs created to provide waste management-related
25 services.

26 As with most expenditures, the economic evaluation should be based on a time frame that covers all
27 programmatic aspects, both short and long term, to provide the most complete picture of the actual
28 cost of the program. The final economic evaluations of the recommended program options should
29 include a lifecycle analysis, factoring in capital and operational costs. With a thorough evaluation,
30 taxpayer and user costs can be balanced to the benefit of the community.

31 Economic growth or losses generated by the program must also be considered. As an example, the
32 expansion of the Ivy MUC could create more jobs in the local sector which in turn will generate tax and
33 other revenue in the community. Conversely, if the MUC is shut down, then more waste will end up
34 being handled by national firms, taking some of the revenue out of our community.

35 Familiarize with and understand resource realities and the drivers behind them.

36 Prices for recyclable commodities fluctuate due to factors as diverse as currency exchange rates, port
37 strikes, market demand and prices for virgin materials. Nevertheless, sustainability concerns demand
38 that we continue to do our best to keep useful resources out of landfills. Ensuring that our recyclables
39 meet or exceed industry specifications increases their economic viability and can help provide steady
40 demand for them. Current economic realities are showing more often than not that source separated
41 wastes/recyclables have the best opportunity for reuse as this method of collection provides a product

1 that more closely resembles the virgin product it is replacing. Conversely, commingling of wastes and
2 recyclables produces a much lower quality of product and in some cases results in recyclable materials,
3 in the worst case, being shipped off for landfilling because they are contaminated with debris (liquids
4 and solids) that interferes with their reprocessing and reuse.

5 It is very important that the County staff keep an active watch on the markets for these reusable
6 commodities. This includes monitoring the material costs, quality issues, types of materials and the
7 vendors who are purchasing or handling the materials. This is necessary as we continue to maximize our
8 return to help cover or offset the cost of the program. Aluminum and cardboard for example, can
9 generate enough revenue to cover their respective program costs, whereas with other commodities the
10 revenue generated is strictly an offset, meaning that the cost to recycle is less than the cost to send it to
11 a landfill. As economics continue to change over time, evaluating the SMM program must take a multi-
12 year approach to assess its true value.

13 Ongoing evaluation of the waste disposal portion of the program is also important. It is unlikely that
14 there is going to be a growth in landfill opportunities as the price of land increases and the
15 environmental costs and impacts of landfill operations continue to climb. The County must remain
16 active in the evaluation of costs and alternatives as these will change over time. Locally, the closure of a
17 waste to energy plant in Harrisonburg occurred as a result of a significant reduction in the cost of
18 natural gas, making it much more economical to burn gas than MSW, which was not the case just three
19 years ago.

20 5.9 Grow Municipal and Public-Private Partnerships

21 [Determine if existing facilities elsewhere in the region can help meet any of the recommended policies](#)
22 [or practices.](#)

23 Negotiate and launch regional partnerships for SMM with neighboring counties and/or UVA and the City
24 of Charlottesville. The TJPDC regional plan recommends that Albemarle, “Realize economies of scale
25 through regional collection, disposal, and recycling opportunities.” The City and County have good
26 examples in the Ivy MUC and McIntire facilities, used by residents of both localities. As the Ivy MUC
27 services improve, it should be possible to negotiate for sharing of services with regional partners at
28 minimal fiscal impact. Options include:

- 29 • Make HHW days at the Ivy MUC available to Nelson or Greene County residents in exchange for
30 access by Albemarle residents to the convenience centers at Faber or Stanardsville.
- 31 • Expand partnerships for composting. At present, only a small part of our community’s organic waste
32 is composted: a potentially valuable soil resource instead goes to landfills, at considerable cost. In
33 developing SMM, RSWA could contract for composting services through local firms. The local area
34 has some successful composting businesses. The City of Charlottesville contracts with Panorama
35 Farm to compost collected leaves and brush. Some City and County public schools also have existing
36 contracts for food waste composting. RSWA should facilitate expanded composting which will
37 decrease landfill waste and methane emissions by diverting organic matter, and which will prove
38 financially viable – both revenue-neutral to taxpayers and attractive to a contract partner.

39 [RSWA has an important role in implementing all strategies.](#)

40 Considering the relative merits of RSWA, the advisory committee recommends that the County:

- 1 • Continue partnership with RSWA as the primary public entity for MSW disposal and SMM in
2 Albemarle County.
- 3 • Collaborate with RSWA and the City of Charlottesville and the University of Virginia to enhance SMM
4 and disposal services which benefit the entire region.

5 The Committee observed three other notable factors when assessing RSWA’s capacity to support
6 recommended actions.

7 First, the Ivy MUC facility has considerable acreage and open space around the former landfill. While
8 structures cannot be built above the waste cells there, ongoing surface operations are valued. Most
9 notably, the Ivy MUC takes disposal of vegetative waste – brush and wood – and rents a grinding service
10 to make and sell mulch. This mulch is sold at a low price but still returns positive revenue to RSWA. The
11 success of this program suggests room for expansion.

12 Second, the Ivy MUC facility is not currently operating at full capacity and is able to adapt. Legally
13 permitted to an average of 150 tons of MSW per day, the transfer station currently receives an average
14 of only 27 tons per day. The rapid spread of curbside mixed-waste service by larger hauling firms going
15 to other transfer stations outside Albemarle has significantly reduced the MSW volume entering the Ivy
16 MUC. This relatively low traffic means that facility improvements can be made in stages, using the
17 existing paved areas to maintain service levels without decreasing convenience. This data also supports
18 the Committee’s policy conclusions that the Ivy MUC is well positioned to provide ongoing and
19 affordable specialized services such as composting and HHW. These options play to the Ivy MUC’s
20 existing strengths.

21 Finally, a study of RSWA operations shows the value and potential for continuing the City and County
22 partnership on SMM. The Ivy MUC and McIntire take advantage of rural and urban locations to offer
23 different services, both of value to city and county residents. Economies of scale benefit both local
24 governments. In the past, partnership governance issues have made progress difficult owing to City and
25 County members of the RSWA Board having different priorities especially concerning maintaining the
26 fiduciary duty to their contributed funds. The Committee hopes that the policies in this report will be
27 mutually acceptable and lead to increased partnership through RSWA.

28 Leverage existing resources programs.

29 Electronics retailers in the County such as Best Buy and Crutchfield already offer safe disposal of e-
30 waste. RSWA may be able to work with them to conduct e-waste drives or accept e-waste on a regular
31 basis.

32 5.10 Support Economic Development

33 Focus on business development and financial benefits of community participation.

34 New markets bring the potential for economic growth. Due to demand from County residents and
35 businesses for commercial compost service, composting company Black Bear has recently expanded its
36 operations through a new partnership, Natural Organic Process Enterprises (N.O.P.E), to collect and haul
37 compost from clients to its facilities. There may be similar additional business opportunities once the
38 County begins implementing SMM strategies and finds that rather than sending most of its MSW to a
39 landfill, materials can be diverted and reused or reprocessed locally.

1 [Consider economic development opportunities with recycled materials.](#)

2 The Committee believes that there is economic opportunity in the use of recycled materials and
3 advocates supporting local businesses that generate new products and markets using recyclables. For
4 example, the County has many thriving beer breweries, wineries, cideries and distilleries that utilize
5 glass packaging, yet glass recycled at McIntire must be transported to Wilson, NC for manufacture into
6 new glass containers. The possibility of working with local businesses to develop an economic
7 opportunity for recycling or re-using glass locally could be a viable and effective offspring of our
8 beverage growth industry.

9 Although County residents and businesses can subscribe to a commercial compost service, the provider,
10 Black Bear, has recently developed a new partnership to help with compost collection from its clients
11 and hauling to its operation in Crimora. There may be similar additional recycling industry support
12 opportunities once the County begins implementing SMM strategies and more materials can be diverted
13 elsewhere for reprocessing.

14 Producing biogas through anaerobic digestion may be another possibility for economic development in
15 the County. Marin County and Monterey, California (Monterey Regional Waste Management District
16 2015) are localities that have partnerships to create energy from methane derived from anaerobic
17 digestion of organic waste collected from their local food vendors.

18 [Canvass local businesses to determine what they are already doing and where improvements could be
19 realized in recycling, composting, etc.](#)

20 Local businesses may already be recycling or employing other means of diversion to dispose of their
21 waste. The County should identify what the business community in the County already does as standard
22 practice and where improvements could be made that would mutually enhance SMM and the business
23 environment.

24 5.11 Enhance Urban Services

25 [Work with the City to extend recycling collection in urban areas of the County.](#)

26 Study options for expanding the City's recycling program to the County's densely populated areas.
27 Charlottesville's system of single stream recycling with biweekly collection in large carts has quickly
28 proven effective in increasing the quality of materials collected for recycling as a result of reduced
29 contamination (Charlottesville 2015). In addition to local government, neighborhood associations and
30 nonprofits can educate at the neighborhood level. The proposed SMM committee could support HOAs
31 and haulers in moving from all-in-one can mixed-waste to curbside source separated collection.

32 5.12 Establish and Promote Incentives and Drivers

33 [Look at incentives and/or requirements to separate recyclable and compostable materials from MSW.](#)

34 The SMM Committee, in conjunction with the RSWA and BoS, should evaluate and recommend the
35 business plan for a rebuilt transfer station at the IVY MUC.

36 Other possible options for consideration by the SMM Committee, RSWA and the BOS include:

- 37 • Ways to establish onsite recycling options, including composting, in multi-family units.
- 38 • Consider ways to add requirements for adequate space for recycling and composting into the
39 County Building Code.

1 **6 Albemarle County Long Range Solid Waste Solutions Advisory**
2 **Committee**

3 Leo Mallek, Chair

4 Liz Palmer, BoS Liaison

5 Wood Hudson, TJPDC Liaison

6 Maya Kumazawa, City of Charlottesville Liaison

7 Rick Randolph, Albemarle County Planning Commission Liaison

8 Anne T. Bedarf

9 Peggy Gilges

10 Teddy Hamilton

11 Steve Janes

12 Teri Kent

13 Randy Layman

14 Jeff Sitler

15 Jesse Warren, PE

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17 Staff Support:

18 Doug Walker, Deputy County Executive for Community Services

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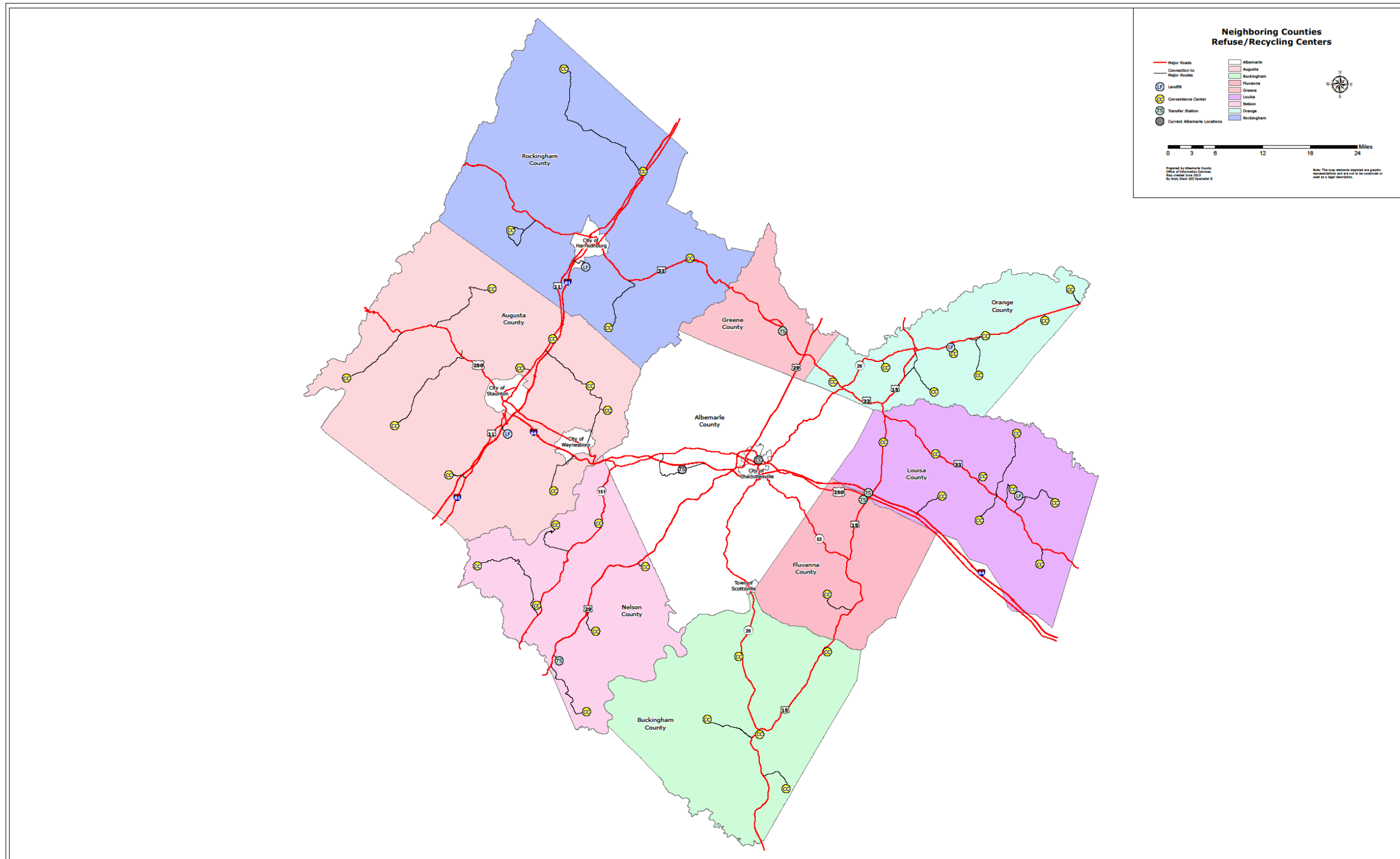
21 James Cathro

22 Angelica Botlo

Appendices

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Appendix 1: Map of Convenience Centers and Transfer Stations in the Region



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Appendix 2: Glossary of Terms

All In One Can/ All In One Bin/ Mixed Waste Collection are common terms used to describe a collection method in which all wastes, including recyclable materials, are deposited together into the same trash can or bin. All In One is not the same thing as *single stream recycling*, in which commingled recyclables are deposited in a separate container from that of landfill-bound trash.

Alternative Daily Cover refers to material (other than earthen material) that is placed on the surface of the active face of a municipal solid waste landfill at the end of each operating day to control vectors, fires, odors, blowing litter, and scavenging. (<http://www.leeduser.com/glossary/term/4656>)

Anaerobic Digestion is the controlled decomposition of organic matter in an oxygen-free environment, resulting in the production of methane, which can be used as energy.

Commingled Recyclables are mixed recyclables that are collected together.

Composting is the biological decomposition of organic materials such as leaves, grass clippings, brush, and food waste into a soil amendment. Composting is a form of recycling.

Convenience Center refers to a collection site for residential trash and recyclables.

Drop-Off Collection is method of collecting recyclable or compostable materials in which the materials are taken by individuals to collection sites, where they deposit the materials into designated containers.

E-Waste or Electronic Waste is a term loosely applied to consumer and business electronic equipment that is near or at the end of its useful life. There is no clear definition for e-waste. It includes, computers, computer peripherals, telephones, answering machines, radios, stereo equipment, tape players/recorders, phonographs, video cassette players/recorders, compact disc players/recorders, calculators, and some appliances.

Household Hazardous Waste (HHW) are hazardous products used and disposed of by residential as opposed to industrial consumers. Includes paints, stains, varnishes, solvents, pesticides, and other materials or products containing volatile chemicals that can catch fire, react or explode, or that are corrosive or toxic.

Materials Recovery Facility (MRF) refers to a facility where recyclables are sorted into specific categories and processed, or transported to processors for remanufacturing. A “clean MRF” refers to a facility that processes recyclables only; a “dirty MRF” refers to a facility that processes **mixed waste** to recover recyclable materials.

Mixed Waste is solid waste that has not been sorted into specific categories (such as plastic, glass, yard trimmings, etc.).

Mixed Waste Collection - see All in One Bin /All in One Can

Mixed Waste Processing (MWP) is a process in which *mixed waste* is manually and mechanically sorted to extract recyclable materials.

Municipal Solid Waste (MSW) is common garbage or trash generated by industries, businesses, institutions, and homes.

Recycling is the process by which materials otherwise destined for disposal are collected, reprocessed, or remanufactured, and are reused.

Recycling Center refers to a collection site for source separated recyclables and/or compostable materials.

Recycling Rate is a percentage of usable recycled materials that have been removed from the total amount of *municipal solid waste* generated in a specific area or by a specific business.

Reuse means the use of a product more than once in its same form for the same purpose; e.g., a soft drink bottle is reused when it is returned to the bottling company for refilling. Reuse is not **recycling**, because recycling alters the physical form of an object or material. Reuse is preferred to recycling because reuse generally consumes less energy and resources than recycling.

Single Stream Recycling is a collection program that allows participants to put all recyclable materials (e.g., paper, bottles, cans, etc.) into one collection container.

Source Separation involves segregating various wastes at the point of generation (e.g., separation of paper, metal and glass from other wastes) to make recycling simpler and more efficient.

Source Reduction, Waste Prevention refers to the design, manufacture, acquisition, and reuse of materials so as to minimize the quantity and/or toxicity of waste produced. Source reduction prevents waste either by redesigning products or by otherwise changing societal patterns of consumption, use, and waste generation. Waste prevention is a type of pollution prevention.

Sustainable Materials Management (SMM) is an approach to serving human needs by using/reusing resources most productively and sustainably throughout their life cycles, from the point of resource extraction through material disposal. This approach seeks to minimize the amount of materials involved and all the associated environmental impacts, as well as account for economic efficiency and social considerations. (www.epa.gov/epawaste/conservesmm/index.htm.)

Transfer Station is a facility where solid waste is transferred from collection vehicles to larger trucks or rail cars for longer distance transport.

Universal Waste refers to particular types of widely generated hazardous wastes that are subject to special requirements under the Federal Code of Regulations, Title 40 Part 273. These regulations ease the regulatory burden on retail stores and others that wish to collect these wastes and encourage the development of municipal and commercial programs to reduce the quantity of these wastes going to municipal solid waste landfills or combustors. In addition, the regulations also ensure that the wastes subject to this system will go to appropriate treatment or recycling facilities pursuant to the full hazardous waste regulatory controls. Universal wastes include

- some sealed lead acid, as well as nickel-cadmium, lithium ion, mercuric oxide, and silver oxide batteries;
- pesticides that have been suspended and/or recalled under Section 6 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), suspended or cancelled as part of a voluntary recall by the registrant, or collected in waste pesticide programs (such as by municipalities during Hazardous Waste Collection Days);

- mercury-containing equipment, which means a device or part of a device (excluding batteries and lamps) that contains elemental mercury integral to its function. Some commonly recognized devices are thermostats, barometers, manometers, temperature and pressure gauges, and mercury switches, such as light switches in automobiles.
- lamps (more commonly referred to as bulbs), which include incandescent, fluorescent, high intensity discharge, neon, mercury vapor, high pressure sodium and metal halide lamps.

Waste Diversion is the combined efforts of *waste prevention, reuse and recycling* practices.

Waste Hierarchy refers to the order of preference of waste management techniques: reduce, reuse, recycle, dispose. Individuals and businesses should look for opportunities to reduce the waste that they generate before they practice any other option. The next preferred option is *reuse*, followed by *recycling* and finally disposal.

Waste Prevention - see *Source Reduction*.

Waste Stream is a term describing the total flow of solid waste from homes, businesses, institutions and manufacturing plants that must be recycled, burned, or disposed of in landfills; or any segment thereof.

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1 Appendix 3: References

2

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1 **Appendix 4: Public Comments Received on the Draft Committee Report**

2 We reproduce here the comments from the public received on the draft report:

3 Beth Bassett/Bassett Home Services LLC, Crozet

4 *Hi Matt,*

5 *Thanks for your hard work on the solid waste recommendations. As a small business owner in Crozet I*
6 *wanted to support the recommendations in the committee's report. We are so glad to see that the*
7 *transfer station would remain in place with some improvements if the BOS follows the*
8 *recommendations. We use the transfer station weekly during our peak remodeling seasons (Spring and*
9 *Summer) and it would be very difficult and ineffective for us to travel outside of our county to take care*
10 *of remodeling debris. We are willing to pay more for the services we receive at the Ivy facility but*
11 *understand private companies specializing in trash collection may find that more difficult to do while*
12 *remaining competitive in the market.*

13 *We are unable to make it to any committee meetings as the schedule is not conducive to also working*
14 *during our busy season but I wanted to express our positive feedback for the committee's work.*

15 *Thank you again,*

16 *Beth*

17 *Beth Bassett*

18 *434-987-4801*

19 *Bassett Home Services LLC*

20 *www.BassettHomeServices.com*

21

23 Edward Strickler and Family, Scottsville

24 *Mr Reges:*

25 *Please share this with the entire Advisory Committee:*

26 *Thank you for the opportunity to 'weigh in' on the draft report (of late July 2015) from the Advisory*
27 *Committee to the County.*

28 *As always, we believe that community task forces/advisory committees/working groups are essential for*
29 *sustainable community improvements in Albemarle County. Thanks to all who took time as private*
30 *people for supporting this advisory committee process.*

31 *Increasingly, however, we believe that the County sub-optimally constrains the insight, effort, and*
32 *product from its task forces/working groups/advisory committees. And, therefore, that work fails to*

1 *achieve substantial, sustainable change to improve the well being of the current and future generations*
2 *residing in the County.*

3 *We have expressed our concerns in this regard about the County's current process considering stream*
4 *health: in summary a. that many issues of stream health have been discounted, dismissed or ignored,*
5 *and that b. many affluent, privileged constituencies have been largely exempted from accountability and*
6 *contribution to ensuring stream health in the County. We express our concerns here regarding the*
7 *County's process considering solid waste (which involves the health of land, streams and other waters,*
8 *air, and the health of our population and future generations).*

9 *As we read it, the draft report:*

10 *- identifies strong public interest in effective recycling and broad public interest in local transfer stations*
11 *but then fails to specify reasons why these public interests are not highly prioritized! AND in fact, the*
12 *report devalues - and almost negates - this strong public interest with a weak statement phrased as a*
13 *vague opinion:*

14 *Dialogue on Additional Recycling Centers. Many residents in both urban and rural areas are not ideally*
15 *served by McIntire and the Ivy MUC. Improvements to the existing facilities and services in conjunction*
16 *with continuing community dialogue may lead to demand for recycling centers in other parts of the*
17 *county.*

18 *The Appendix 1: Map of Convenience Centers and Transfer Stations in the Region*
19 *is fascinating. The report should explain - historically - how it is that Albemarle County serves its large*
20 *population so poorly when compared to the service provided to much smaller populations of neighboring*
21 *counties.*

22 *- fails to consider the role of County regulations, when, in fact, the regulatory environment for managing*
23 *solid waste should be a critically important consideration.*

24

25 *At least the County observes its failure to regulate itself and offers some modest self-regulation:*

26 *County should lead by example and implement its own program for source separated recycling within its*
27 *operations and facilities, and establish recycling goals and timeframes as part of the SMM program*
28 *framework.*

29 *But the report deals not at all with regulation of other large organizations in the County that generate*
30 *mountains of solid waste. For example, why hasn't the report assessed the contribution to total solid*
31 *waste generated by shopping centers? by Martha Jefferson Hospital, senior living/retirement*
32 *communities, and other similar facilities? by condominium, town home, and apartment communities? by*
33 *large industrial operations? by large agricultural operations? And defined opportunities in a regulatory*
34 *environment to manage this waste in ways responsive to public interest.*

35 *We must add a story that exemplifies this inadequate regulatory environment in a particular small*
36 *context: we attempted, in rural Scottsville District, to hire a solid waster hauling company that would*
37 *accept separated recycling but could not find any, and furthermore, some hauling companies said that*
38 *we lived in the area served by somebody's cousin and so they wouldn't consider serving our home. Yep,*
39 *you heard that right: the interests of somebody's cousin are the operative regulatory environment of*

1 *solid waste management in parts of southern Scottsville District. Can the County - at least - regulate*
2 *handling of solid waste hauling services more effectively? And then move to large organization and*
3 *large generators of solid waste?*

4
5 *Further, why hasn't the report identified ways in which solid waste management can contribute*
6 *to economic development in the County! Why doesn't the report find ways to add good, well paying*
7 *jobs, with benefits, for laboring persons and households in the County? Add career ladders for young*
8 *people to start and work up through 'green' careers in solid waste management? We fear that the*
9 *report regards facilities, jobs, and careers in solid waste management to be 'dirty' and 'unworthy' of*
10 *Albemarle County (which is one of the stories that may be told by the Appendix 1 Map). Please be sure*
11 *that any such prejudice, bias, and ignorance is addressed directly and nowhere embedded in the report.*

12
13 *We can speak much more but we'll rely on these brief analyses of the report's failures to request,*
14 *respectfully, that it be revised, substantially.*

15
16 *Thank you,*
17
18 *Edward Strickler and family*
19 *8232 Scottsville Road, Scottsville VA 24590*

20

21

22

23 Lisa E. Meadows, Scottsville resident

24 *Dear Mr. Reges,*

25 *I appreciate the county's long range waste report study and the need to provide household waste and*
26 *recycling to Albemarle residents. I have just a few comments as a resident of southern Albemarle. First*
27 *and foremost, the need for a household waste/recycling center is in great demand. Louisa is a county*
28 *that proves this can be done right by providing these types of facilities, conveniently, to their residents. It*
29 *is burdensome for southern county residents, just across the Fluvanna County line, etc. to make a trip to*
30 *Ivy or Charlottesville to recycle. I believe our taxes should support these waste/recycling centers and that*
31 *there is a huge need for one in the southern Albemarle area, i.e., Scottsville district, Red Hill district. I am*
32 *more than willing to separate my recycling and wastes such that I can dispose of these items myself at a*
33 *center. I do not believe I should have to pay a private hauler a monthly fee for taking away my*
34 *waste/recycling once or twice a month. Our taxes should adequately cover these stations/center and I*
35 *hope to see a convenient one in my area in the near future.*

36 *Regards,*

37 *Lisa E. Meadows*
38 *2854 Secretarys Road*
39 *Scottsville, VA*

1 *PS one need only take a drive down Scottsville Road, Secretarys, Rolling Road, etc., to see that many of*
2 *the residents trash never quite make it to the Ivy landfill – the sides of our roads are littered with trash*
3 *bags. This only goes to show that many county residents are not going to be inconvenienced; thus, we*
4 *must find a way to make disposal of our household wastes and recyclables convenient.*

5

6

7

8 Virginia C. Roy, Charlottesville resident

9 *Dear Mr. Regis*

10

11 *A thorough and concise report.*

12

13 *HOWEVER*

14

15 *One serious disposal problem we do have in this area, is a place to safely dispose of unneeded and*
16 *expired **medicines** by individual citizens. (Nearest being in Staunton or*
17 *Harrisonburg: <https://www.deadiversion.usdoj.gov/pubdispsearch/spring/main?execution=e1s3>)*

18

19 *Given that this is a fast growing and aging community very dependent upon and able to age longer*
20 *with the help of medications, information of that sort should be made readily available and that*
21 *information well distributed.*

22

23 *Thanks for all the work on the part of this very dedicated committee.*

24

25 *Virginia C. Roy*

26 *1196 Rose Arbor Ct*

27 *Charlottesville VA 22901-1789*

28 *(434-971-7028; 434-249-0637/cell)*

29 *shrinkwrap3@gmail.com*

30

31

32

33 Christine Putnam, southern Albemarle County resident

34 *Matt,*

35 *I would like to comment on the draft report.*

36 *I strongly support all of the recommendations in the report. In addition, I would like to see some way of*
37 *holding the "single stream" sorting facilities like the Van der Linde MRF accountable for reporting*
38 *recycling rates. This is something that the public has the right to know, especially given the fact that*

1 *Albemarle county residents have few options when it comes to trash disposal. I have spoken to many*
2 *people who have been led to believe that all of the materials placed in their trash bin will be properly*
3 *recycled. If the public knew the truth about the recycling rates, I bet most people who previously sorted*
4 *and delivered their recycling to McIntire would go back to doing so. If we were really serious about*
5 *reducing our landfill waste we would employ a three bin system that includes separate bins for compost,*
6 *recyclables and landfill waste. Until this happens, more recycling options should be made available for*
7 *those of us who live in the rural areas. Ideally this would be a facility similar to the McIntire Recycling*
8 *Center where compostable materials could also be accepted. I live in the southern part of the county and*
9 *would welcome a facility in Scottsville, Keene or at Walton MS. I have some neighbors who still burn*
10 *their trash and others who simply throw it out on the road. This may be a matter of education and an*
11 *unwillingness or lack of resources to pay for a trash hauler. Never the less, this is something that should*
12 *be addressed.*

13 *Thank you for considering my comments.*

14 *Christine Putnam*

1 Appendix 5: Public Opinion and Engagement Results

2 **2006 Weldon Cooper Citizen Survey:** This survey acquired 787 responses, but unlike ICMA surveys, the
3 results do not carry nationwide benchmarking. It assessed recycling but not MSW disposal. This is the
4 oldest survey studied by the committee, and has a margin of error of +/- 3.6%.

- 5 • 56.6 % of the respondents indicated they were satisfied with the recycling services provided.
- 6 • Recycling was among the services with lowest satisfaction -31st out of 33.
- 7 • Respondents were overwhelmingly interested in recycling services, with 72.6% indicating the service
8 was very important, 22.8% somewhat important, and 4.5 % did not consider recycling services that
9 important.

10 **2007 Stakeholder Survey:** As part of the Gershman, Brickner & Bratton consultant work on strategic
11 planning, residents of Charlottesville, Albemarle County, Town of Scottsville and UVA students were
12 invited to complete an online survey. While not a statistically valid sample because the respondents
13 were self-selected, the survey provided an indication of public opinion on solid waste and recycling
14 facilities and services. There were 404 responses.

- 15 • Regarding MSW disposal, 19.1% of respondents indicated they were “very satisfied”, 38.4%
16 “somewhat satisfied”, 16.1% “neutral”, 19.8% “somewhat dissatisfied” and 6.7% “very dissatisfied”.
- 17 • With regard to recycling, 13.4% of respondents were “very satisfied”, 30.7% “somewhat satisfied”,
18 9.4% “neutral”, 25.2% “somewhat dissatisfied”, 21.3% “very dissatisfied”.
- 19 • 86.7% of County respondents with trash collection reported that they would like to be able to
20 recycle at the curb. 66% of County respondents with no trash collection reported that they wanted
21 to be able to recycle where they dispose of their trash.

22 **2008 Weldon Cooper Citizen Survey:** This survey was a telephone survey with 767 residents contacted
23 with a sampling error of +/- 3.8 %.

- 24 • 52.2 % of the respondents indicated they were satisfied with the recycling services provided.
- 25 • Recycling was the service with lowest satisfaction -35th out of 35.
- 26 • Respondents were overwhelmingly interested in devoting county financial resources for recycling
27 services, with 74.6% indicating that using resources was very important and 66.9% willing to spend
28 tax dollar on recycling services. In fact, out of 38 county services evaluated for use of tax dollars,
29 recycling services was ranked 18th.

30 **2011 ICMA Citizen Survey:** The National Citizen Survey™ is a collaborative effort between National
31 Research Center, Inc. and the International City/County Management Association (ICMA). This survey
32 collected 378 responses with a +/- 5% sampling error.

- 33 • Only 23% of the survey respondents indicated they consider provided recycling services as
34 “excellent”, with 45% only rating the services as “good”.
- 35 • In a similar vein, MSW collection was rated “excellent” by only 31%, with 51% indicating the
36 collection services were “good”.
- 37 • Recycling services in Albemarle County were rated lower than the national ratings for these
38 services.

- 1 **2013 ICMA Citizen Survey:** This survey collected 376 responses with a +/- 5% sampling error.
- 2 • The survey showed that recycling by citizens was somewhat reduced as compared to the 2011
 - 3 responses, with 77% of respondents in 2013 indicating they had recycled in the last 12 months
 - 4 compared to 81% in 2011.
 - 5 • Specifically, 23% of the respondents had not recycled glass, paper or aluminum from their home
 - 6 in the last 12 months, whereas 47% had done it more than 26 times in the period. Another 10%
 - 7 recycled 13 to 26 times and 12% recycled 3-12 times. A small percentage, 8%, had recycled once
 - 8 or twice.
 - 9 • Overall, 25% of respondents felt recycling services were excellent, 47% rating them as good, and
 - 10 21% as fair, with the remaining 7% rating the services as poor. However, the recycling ratings
 - 11 were still below national benchmarks.
- 12 **2014 Resident Survey:** County staff worked with the Committee to design an online survey to give a
- 13 snapshot of public opinion on solid waste and recycling in Albemarle County. The response sample was
- 14 unscientific but diverse, with 349 responses, coming from both urban and rural areas of the County.
- 15 • 31% of respondents indicate they use Ivy “sometimes” for appliances, paint, tires, etc. and 12% use
 - 16 Ivy “regularly” for trash disposal or other services. 28% recycle “regularly” at McIntire. 21% use Ivy
 - 17 or McIntire “rarely”, and 28% of respondents “never” use Ivy or McIntire.
 - 18 • Fully 84% of survey participants want the community to recycle more than the official rate (County
 - 19 and City) of 31%.
 - 20 • A wide majority of respondents affirmed that recycling was important, and that they were
 - 21 motivated to keep useful materials out of landfill (77%) and to help the environment (76%).
 - 22 • 43% of respondents reported that they contract privately for trash hauling services and another 37%
 - 23 contract through neighborhood, HOA, or apartment. 16% reported that they self-haul.
 - 24 • 25% of respondents reported being “very satisfied” with existing services overall, 33% “satisfied”,
 - 25 23% “neutral”, 16% “dissatisfied”, and 4% “very dissatisfied”.
 - 26 • Of those selecting a “most important” factor in choosing a trash and recycling service, 37.7% rated
 - 27 convenience most important, 36.8% selected the recycling rate, and 24% selected price. 41.4%
 - 28 percent of the sample indicated that something other than convenience, recycling rate or price was
 - 29 the most important factor for them.
- 30 **2015 ICMA Citizen Survey:** The Community Livability Report used similar questions and methodology as
- 31 the 2011 survey. It provides the opinions of a representative sample of 375 residents of Albemarle
- 32 County. The margin of error is +/- 5% for the entire sample.
- 33 • 69% of respondents rated recycling as good to excellent.
 - 34 • 72% indicated they recycled at home; this high percentage is almost surely the result of the all-
 - 35 in-one services currently provided by private haulers.
 - 36 • Included in the Survey were several special topics that the County selected for consideration.
 - 37 Recycling was one of these and 70% of the respondents indicated it was “very important” to
 - 38 them, 27% considered it somewhat important and only 3% did not consider it important.

- 1 • Further, the Survey queried residents as to whether they would use a source-separated
2 recycling center if it were conveniently located. 39% indicated they would very likely to use it,
3 31% were somewhat likely to use it and 30% were not likely to use the facility.

4 In addition to examining public opinion data through surveys, the Committee also completed public
5 outreach activities to hear from interested residents directly.

6 The committee held a large, **open house community event** at the 5th Street County Office Building on
7 June 4th, 2015. At least 40 residents attended, representing a diverse range of neighborhoods, opinions,
8 and recycling practices. Committee members and County staff gave short presentations on key facts in
9 solid waste, then invited the public to respond and contribute to a series of exhibits and displays on
10 different policy concepts and solution options. Results are below.

11 **Exhibit 1. Current System**

12 Where in the county do you live? 2 - Nelson County, 1 - Charlottesville, 1 - Pantops, 1 - Mill Creek, 2 -
13 Batesville/SW part of County, 2 - Earlysville/Free Union

14 What kinds of materials should we recycle? What should the recycling rate be?

- 15 • *MUC should become a one-stop-shop where we can drop off trash and all forms of recyclables and*
16 *compostables (yard waste).*
17 • *The ratio of bags of trash to bags of recycling is 1:4 or 1:5 for our family. It's not that hard and it*
18 *reduces trash to landfill by 80%.*
19 • *I would like to have a system in the County of Albemarle that provides separate recycling bins along*
20 *with trash collection.*

22 **Exhibit 2. Collections**

23 Place a dot where you would like to see a collection center:

- 24 • *Town of Scottsville,*
25 • *Mill Creek,*
26 • *Pantops,*
27 • *Barracks Rd. city limit,*
28 • *Crozet,*
29 • *Red Hill Rd.*

31 Comments provided:

- 32 • *Recycling drop-offs or mini-recycling sites at all apartment building and condo areas! Nothing for all*
33 *those people now. Maybe at assorted shopping centers (behind) where truck pick up could happen.*
34 • *Provide Recycling tubs, e-trash containers for weekly pickup.*
35 • *Don't get people "un"-trained by offering less efficient all in one. Decades were spent teaching*
36 *people to separate. However, that said, it is needed in some areas where space is limited.*
37 • *MUC could be used more if it offered a full range of recycling.*
38 • *Proper recycling*

1 **Exhibit 3. Compost**

2 Do you compost at home? Do you want to try it?

- 3 • *Yes! We participate in the City Market composting program. We hope it continues next year.*
4 • *Need education regarding the many many things that can be composted.*

5

6 If a free collection bin were conveniently located, would you separate your food waste and bring it to a
7 collection site?

- 8 • *Do it at the "one stop shop."*
9 • *Compost bins available at McIntire. Drop-off recyclables + compost in one trip.*
10 • *Yes!*

11

12 Where might be the best locations for such compost bins (put dots on map)?

- 13 • *Easy to park places.*
14 • *McIntire,*
15 • *Ivy (2),*
16 • *Barracks Rd. city limit (2),*
17 • *MHS/Mill Creek,*
18 • *Hollymead Town Center,*
19 • *Walton MS or Rt. 20 Hardware bridge*

20

21 **Exhibit 4. SW Management**

22 Attendees were asked to rate 2 of the leading recommendations of the Committee.

23 Create a dedicated Solid Waste Coordinator position: 10 dots. "Must have! THANKS"

24 Establish a standing citizen committee on solid waste: 13 dots.

25

26 **Exhibit 5. Public Outreach**

27 Attendees were asked if they were supportive of several ideas for public outreach.

28 Community-wide: clarify the different types of collection and the benefits and limitations of each.
29 Ivy MUC on Sundays.

30

31 Schools: in-class activities like composting and recycling, and guest speakers or trips

- 32 • *5 green dots. Notes: volunteers from schools good for education and community services.*
33 • *Kids influence adults --this is a great idea.*
34 • *Must start with the young ones to create a better future!*
35 • *Join the program at Camp Albemarle 4-H, City/County kids 1,000's add waste management*

36

37 Volunteers: help organize litter control and clean-up groups for roads and public areas.

38 *4 dots*

1 Business: partner with Chamber and other groups to share and celebrate low-waste success.
2 *3 dots. Love the scorecard idea. This is a good marketing tool for businesses too.*

3 Neighborhoods: help them decide how to add better services for their residents.
4 *5 dots.*

5 Marketing: use radio and web ads to share tips on best practices.
6 *3 green dots.*

7 New Idea: Zero waste education. Facebook & other social media.

8 **Exhibit 6. Ivy MUC - Long Range Planning.**

9 Comments left on exhibit notes:

- 10 • *It makes no sense to build a building. Why not trash direct to van der Linde + recycling bins.*
- 11 • *Make the Ivy MUC a one-stop-shop: trash drop-off, all recyclables, compostables, all at one location.*
- 12 • *Increase the amount of recycling at Ivy MUC. Food waste composting (meat, shells)*

13

14 **Exhibit 7. Funding**

15 How should improvements to public services for solid waste be paid for?

- 16 • *Charge a fee on real estate. Each household gets so many bags/month.*
- 17 • *Additional bags cost. County hires haulers to pick up all trash.*
- 18 • *Combination of general fund and pay for use.*
- 19 • *Pay-for-use fee. Tie use to fees → reduce.*
- 20 • *Households pay according to waste generated and/or recycling credits.*
- 21 • *Please add recycling bins to county trash collection provided. 3 orange dots.*

22

23 **Exhibit 8. Special Collections**

24 Increase the number of collection days at Ivy MUC. 12 blue stickers

25 Increase collection sites. Pharmaceutical boxes could be placed at police or fire stations. 14 blue stickers

26 Raise awareness. Local businesses like electronics retailers, auto shops, and hardware stores often
27 provide safe disposal for specific items. 10 blue stickers plus a note "Raise awareness re electronic
28 recycling especially."

29 New idea: HHW needs far more collection dates

30 Have an electronic recycling day twice a year (certified E stewards) 1 dot

31 Do a better job of advertising options. 1 blue dot

32 Build a better website/app with all recycling locations/items recycled. Use geolocation to provide exact
33 info. 1 blue dot

34

35

1 Other venues for communicating with County residents included:

- 2 • **Information on website.** Staff maintained a webpage for the advisory committee within the County
3 site. It contained minutes and agendas, links to reference documents, and highlights of upcoming
4 events.
- 5 • **Notice** when public meetings are occurring, through County website calendar tools.
- 6 • **Roundtable discussions** with stakeholders, facilitated by staff and Committee members. The
7 committee hosted a stakeholder event on December 16th, 2014. There were 23 stakeholders in
8 attendance, representing local business and community groups, regional waste management firms,
9 and County residents. Lively discussion focused mainly on education programs for residents, and the
10 importance of waste reduction and recycling.
- 11 • Committee member Rick Randolph made a **presentation** on the committee’s work at the
12 Neighborhood Leadership Summit on April 29th, 2015. About 60 active citizens attended. Mr.
13 Randolph made a rapid straw poll. Only 8 of 60 reported using McIntire. However, half had been to
14 Ivy for occasional services. About 40% would like to use a free composting site to deposit organic
15 wastes. About 50% would like to have and use a new recycling center at a more convenient location.
- 16 • **Press releases** to local media. Coverage online and in print help to raise awareness and stimulate
17 attendance at other events. News media attended and covered the June 4th open house.
- 18 • **Social media outreach.** The Engage Albemarle discussion platform hosted a topic, “What does your
19 family do to improve recycling and reduce waste in the environment: what do you want to change?”
20 Results from Engage Albemarle show a wide range of opinions and behaviors.
 - 21 ♦ *We compost at home or use a local composting service.*
 - 22 ♦ *We separate recyclables like paper or aluminum and take them to the McIntire Recycling Center.*
 - 23 ♦ *We save our HHW until the collection days at Ivy MUC, instead of putting HW in the trash.*
 - 24 ♦ *We are careful to buy products with less packaging, or with packaging made from recyclable*
25 *materials.*
 - 26 ♦ *We try to give unwanted items another chance using Goodwill or Freecycle, instead of throwing*
27 *them out.*
 - 28 ♦ *We wish there were better recycling facilities at Ivy MUC, so we could recycle metal and plastic*
29 *there.*
 - 30 ♦ *Household hazardous waste disposal needs to be more convenient.*

31 In conclusion, the public engagement around solid waste shows that a significant segment of the local
32 population is strongly interested and committed to best practices for the environment. Public
33 engagement results informed the committee’s conclusions, and ongoing public outreach is a key
34 recommendation for the Board’s consideration.

Appendix 6: Alternatives That Did Not Reach Consensus

The BoS requested that the Committee’s report include options considered but not advanced. Many options were informally discussed and rejected during meetings throughout our term. The following four options went through the more formal consensus review process at our facilitated meetings. The Committee failed to reach consensus to advance them for the reasons stated.

1. **Build a new 15,800 sf building at the Ivy MUC.** This facility would house transfer station operations, commercial recycling capabilities, a recycling and waste disposal center for residents, trailer storage and office space. This option was the most expensive of several outlined by consultant Draper Aden in a letter to the Board of Supervisors dated March 3, 2015.

The Committee agrees that it is important to build a new and improved transfer station that can accommodate expanded recycling; however, the Committee does not recommend consolidating commercial operations with drop-off services for residents. Instead, the Committee recommends upgrading the existing drop-off area to provide for source-separation of recyclables similar to McIntire, creating a model for additional recycling centers in areas of the County that would like such services.

2. **Close the Ivy transfer station and focus on the model recycling center.** One option at Ivy is to focus improvements there on recycling services for the self-hauling public. The Board of Supervisors investigated this option in 2013 but did not finalize any change. Draper Aden (March 2015) estimated the cost for a limited facility at \$209,000. Commercial haulers collecting and disposing of MSW from multiple sites would be barred from the facility, while small business users disposing from their own business would be allowed. With less heavy equipment and a simpler mission, Ivy might offer a high level of citizen recycling services with similar operational costs.

The Committee reached consensus on the importance of preserving transfer station services in the County and does not recommend this option.

3. **Design and launch new unstaffed recycling centers with contracted service.** A small site such as the rear of a shopping center parking lot could be used. Facilities could be as simple as four covered bins: one for mixed paper, one for rigid recycling (metal-glass-plastic), one for organic compostable waste, and one for other MSW. Lynchburg has ten such facilities for its residents. This option is not recommended primarily because unstaffed centers often have problems with contamination, dumping, vandalism, and other misuse. If sited on a partner’s property, maintenance could become risky for the County, or the partnership would be jeopardized by misuse. Moreover, unsupervised contamination of source-separated recyclables with MSW or other inappropriate materials reduces their quality, value, and marketability.

The three paper recycling bins operated by RSWA at Scottsville, Pantops, and Sam’s Club should continue and receive marketing support from the standing committee and its community partners, but more unstaffed recycling centers should not be a long-term strategy.

4. **Reduce RSWA’s role and contract the operation of recycling centers.** For fiscal year 2015, the County supported RSWA operations with subsidies of \$109,488 for McIntire and \$383,427 for

1 Ivy (RSWA 2015?). If RSWA's results at these facilities were judged inadequate, then RSWA's
2 responsibility could be reduced to landfill remediation only, and these funds, totaling \$492,915,
3 could be repurposed for contract operations of MSW and recycling services. The County could
4 hire a contract administrator, then receive bids for services including recycling, composting,
5 MSW disposal, HHW and other specialty disposal services. Procurement could specify the
6 operation of staffed recycling centers, set targets for recycling rates, and detail services where
7 fees could be charged. Subsidies could be paid to support the private operations.

8 The Committee did not support this option as the County's partnership with RSWA assures the
9 greatest level of SMM reliability, oversight and transparency.

Appendix 7: Recommendations for Membership of the Sustainable Materials Management Advisory Committee

The Sustainable Materials Management Advisory Committee would provide programmatic support to the SMM Coordinator, lead ongoing citizen engagement, convey information to staff and the BoS, and serve to liaise with other stakeholders, including businesses and units of government to advance implementation of SMM policy and strategies.

1. The process of establishing the Sustainable Materials Management Advisory Committee should begin upon completion of the Long Range Solid Waste Solutions Advisory Committee's work and acceptance of this report by the Board of Supervisors.
 - General Services staff would need to work with Board of Supervisors staff to develop a fact sheet for the committee and initiate an application process, as used for the creation of all other County committees. General Services Department staff and the County Attorney's office would need to develop a set of by-laws for the Committee. Board of Supervisors and General Services staff would need to set up an interview process to assist the Board with appointments.
2. The SMM Committee should consist of 7 to 9 members; this is a good compromise between the wide experience base of a larger committee and the more efficient interaction and decision-making of a smaller group. A larger group would be cumbersome and slow to act. When additional expertise is needed, the SMM Committee should invite experts to attend meetings and provide input.

These standards can be included in the by-laws for the SMM Committee.

3. The SMM Committee needs to include a range of expertise in fields applicable to its tasks (see below). Membership should include:
 - Professional Engineer (environmental/civil)
 - solid waste management industry interest/experience
 - public policy/interest
 - members with other specific qualifications
 - RSWA representation

The group should also include local landowners and citizens with interests in Solid Waste Management.

This list of fields and interests can be included in the announcement of the formation of the Committee. Prospective members would be asked in which of these areas they have experience. If necessary, staff could contact prospective members to obtain more information to help the Board in the selection process.

4. All members of the Committee, no matter what their background or area of expertise, should be supportive of the SMM goals that the County has adopted into its Comprehensive Plan. The Committee's role should be to support, expand on, and implement that policy. As part of the application process for the Committee, potential members should be asked to confirm their support

for SMM in the County, and their answers should be considered in the Board's selection of the most suitable candidates.

- As part of the committee application process, a question can be included requesting that prospective committee members briefly describe their background and interest in sustainable materials management, and in the areas of interest/expertise listed in #3 above. The answers could be evaluated by the Board as part of their appointment process, without any additional process.
 - Resources needed: To be included as part of establishing the Committee as described in Recommendation #1.
5. The membership of the Committee should strive to reflect the diversity of the community.
 - General Services staff will work with Board of Supervisors staff and Public Relations staff to ensure that a variety of media outlets is used to help develop a SMM Committee that is representative of the County community.
 6. The Committee should be known as the "Sustainable Materials Management Advisory Committee."