

# Glass Recycling Proposal for the City of Covington

Georgia Tech Sustainable Business Ambassadors/Fellows Project    April 2022





# Agenda



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# Introduction

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**The Ray C. Anderson Center for Sustainable Business at Georgia Tech offers undergraduate and MBA students the opportunity to partner with organizations to “deepen their engagement in environmental and social issues for business by working on projects.”**

# Meet the Team



**Felicia Lamothe**

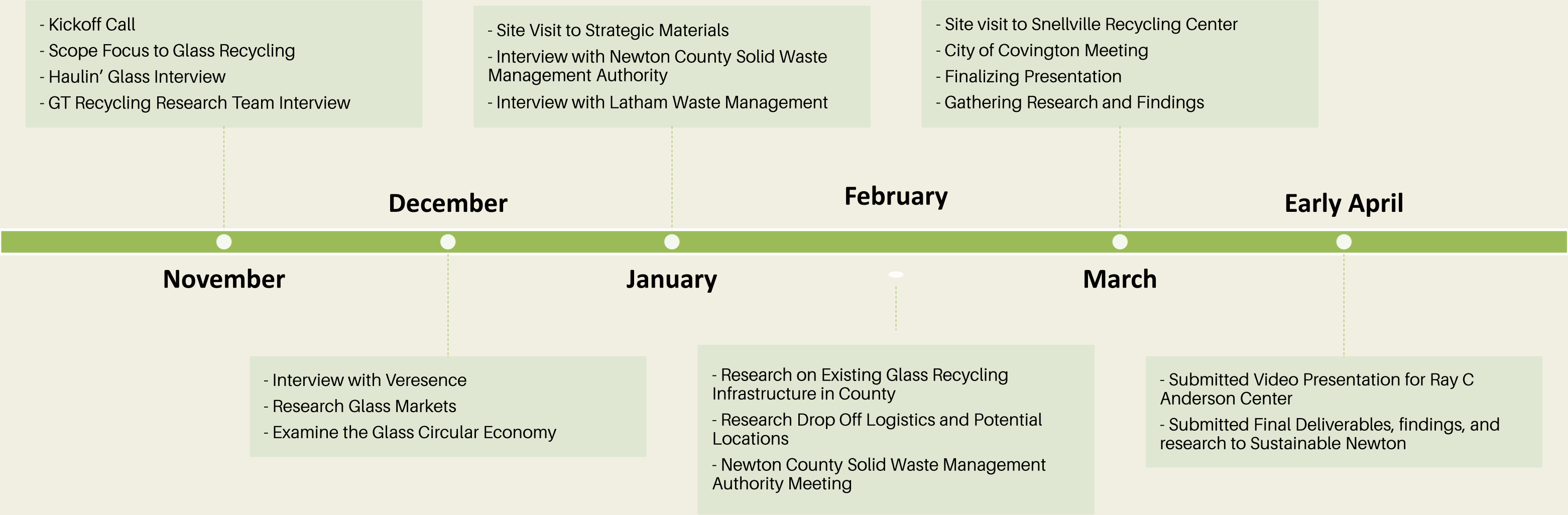
MBA  
Strategic Sustainability  
Strategy & Innovation



**Kayley Beard**

Architecture  
Sustainable Business  
Sustainable Cities

**We partnered with Sustainable Newton in November 2021 to research and discover a circular economy for recyclable waste, particularly glass, in Newton County.**



# Current State

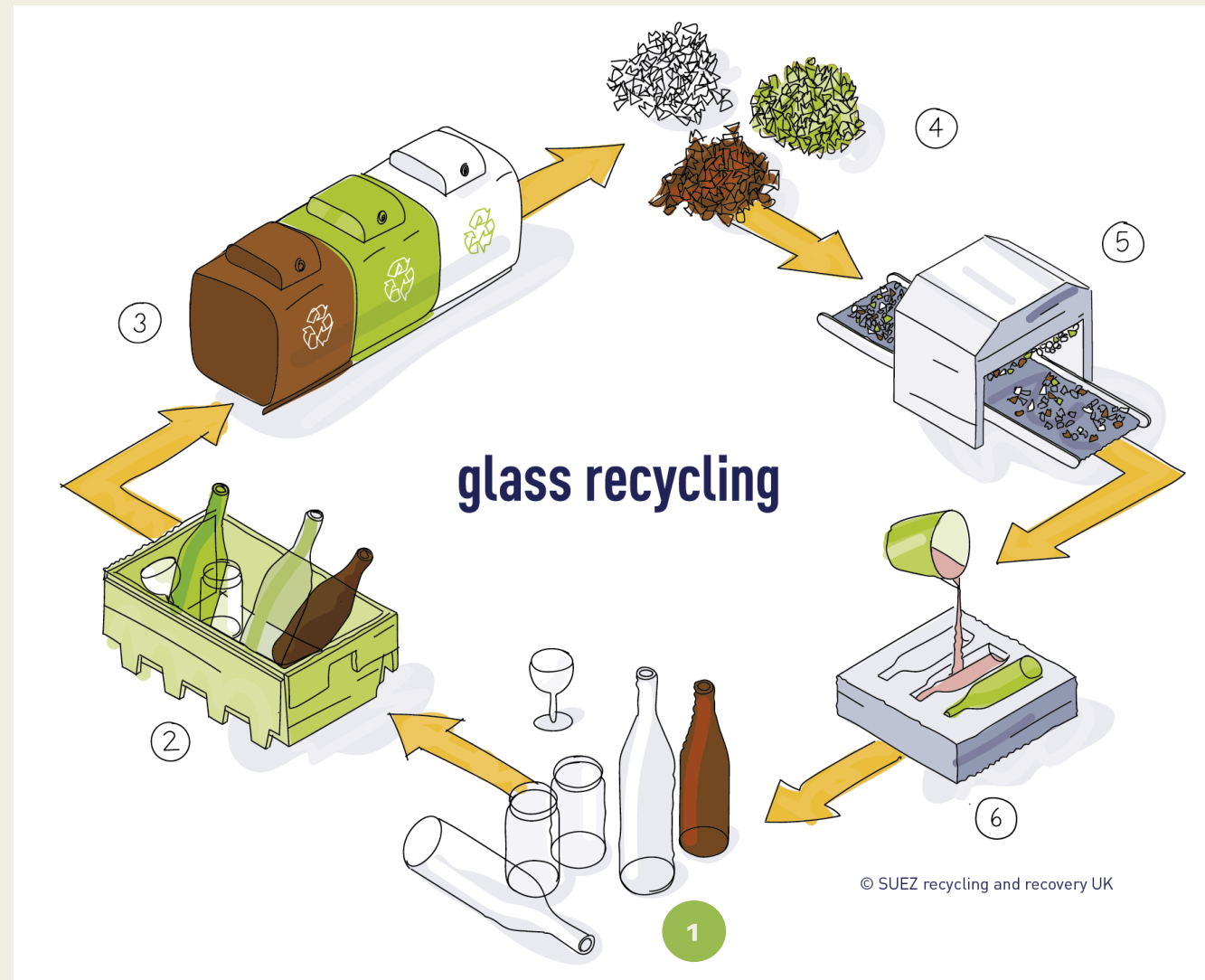
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Glass recycling encourages a circular economy loop for Newton County

- 1 Glass is **100%** recyclable endlessly. 
- 2 More than **28 billion** bottles and jars end up in landfills every year. 
- 3 That is the equivalent of filling up **2** Empire State Buildings every **3** weeks. 
- 4 Glass takes a **million** years to fully degrade in a landfill. 
- 5 Recycling **1 jar** saves enough electricity to light an 11-watt CFL bulb for **20 hours** 



**Glass recycling includes six steps from bottle collection until the bottle is remanufactured.**



- 1 Resident's collect glass materials
- 2 Glass is dropped off at 1 of 6 recycling centers if within Newton County
- 3 Sorting by Color (Flint, Amber, Other)
- 4 Glass transported to Strategic Materials where it's broken into small pieces (cullet)
- 5 Cullet is then sorted, cleaned, and sold
- 6 Manufacturers then reheat and create new bottles or glass products

# Challenges with the Existing Model

- Cost to Resident: \$165 (increasing to \$170 in July) tag fee for recycling centers
- Lack of Convenience
  - Residents store glass in their homes until prepared to visit a site
  - Time lost at the facility
  - Travel distance from home to the nearest facility
- Easier to place glass in general waste

# Problem Statement

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Currently **only 20%** of Newton County residents use the convenience centers which means **80%** of the county's glass waste is going to the **landfill**. Our project focused on uncovering ways to improve glass recycling to encourage a **circular economy** in the cities of Newton County.



# Analysis

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# Our team conducted interviews to learn more about the glass recycling process and industry.

**Newton County  
Solid Waste Authority**

Solid Waste Management Authority

**Strategic Materials**



**Haulin' Glass**

*Haulin' Glass*

**Verescence**

VERESCENCE

**Latham Home  
Sanitation**



**Gwinnett Clean  
& Beautiful**



# Newton County Solid Waste Management Authority

- 1 Operating the six county convenience centers
- 2 Currently sends glass to Strategic Materials
- 3 Interested in partnerships to increase glass recycling county-wide



# Strategic Materials Inc.



- 1 Only glass recycling drop off in Georgia
- 2 Has a cleaning and sorting process for breaking down glass
- 3 Two different end users of the cullet – fiberglass and bottle remanufacture



# Haulin' Glass

**1** Relatively new glass hauler servicing 3 Sandy Springs liquor stores

**2** Picks up glass waste and delivers to Strategic Materials

**3** Trucks outfitted to empty 64-gallon waste bins





# Verescence

- 1 Glass bottle manufacturer located in Newton County that produces luxury clear glass goods
- 2 Purchases flint glass from Strategic Materials
- 3 Strong interest in community partnerships around glass recycling

# Latham Home Sanitation



- 1 Service waste management and recycling for the city of Covington
- 2 Does not offer glass recycling to Covington, but are contracted to provide this service to other cities in Georgia
- 3 Recommends central pickup location for glass recycling and sorting by color



# Gwinnett Clean & Beautiful

- 1 Pilot glass recycling program at numerous locations in Gwinnett County
- 2 Weekly audits by staff to assess cleanliness of glass in the roll-off containers
- 3 Communication and outreach, appropriate signage, and strong partnerships are important for glass recycling success



# Recommendations

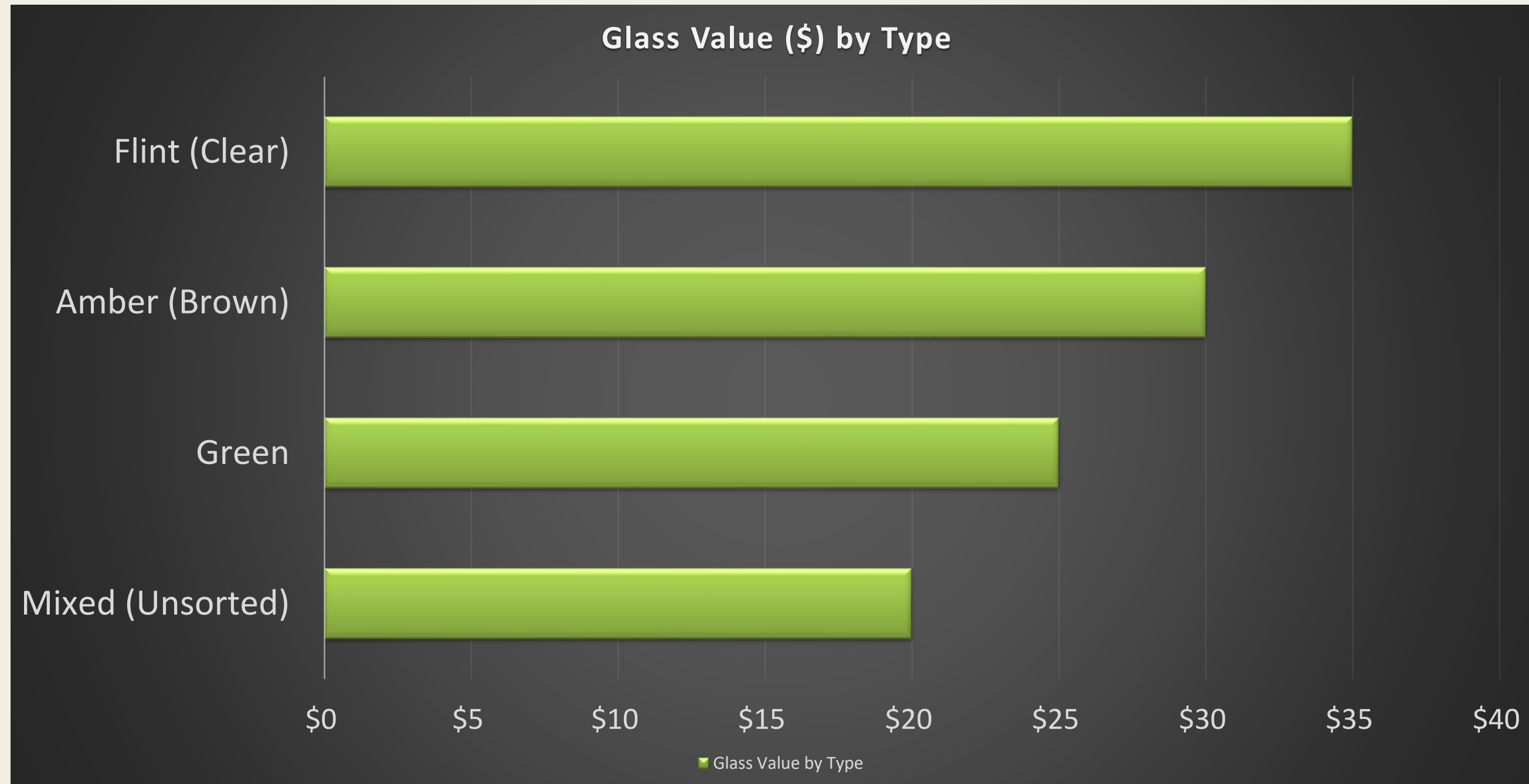
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Our recommendation is for the City of Covington to partner with the Newton County Solid Waste Management Authority to open an additional central drop-off center to supplement the existing glass recycling infrastructure in the county.

# Pilot Program Cost Considerations

- Labor: Man hours to operate/oversee site
- Equipment
  - Container(s) for glass
- Transportation of collected glass
  - \$350 + fuel surcharge, if handled by Strategic Materials
  - Covered if handled by the Newton County Solid Waste Management Authority
    - Estimated cost to SMWA is \$325 per trip
    - Transportation costs partially offset by payment for glass
- Other factors that may be applicable:
  - Land/Rent
  - Site Inspections
  - Set up costs

# Glass Value by Strategic Materials, Inc.





# Pilot Program Benefit Considerations

- A partnership with the SWMA allows the city to bypass the cost of transportation
- Increase goodwill from cities and residents
- Attract more sustainability-minded businesses
  - Veresence
  - The Battery Resourcers recycling plant
- Extend the life of existing landfill, current cell will be full by September
- Position the city to scale recycling efforts through gained experience and conditioning of residents (i.e. Snellville Recycling Center)
- Ability to charge a fee, if needed
  - Consider fees may impact recycling participation

## After researching types of drop off locations, we identified two sites worth considering:

Site	Address	Existing Resources
Former Covington Recycling Center	Turner Street off of Alcovy Road	<ul style="list-style-type: none"><li>• Former recycling and waste infrastructure</li><li>• Enough space for trucks and cars</li></ul>
Legion Field Park	3173 Mill St NE Covington, GA 30014	<ul style="list-style-type: none"><li>• Existing dumpsters on site</li><li>• Cameras present</li><li>• Public green space</li></ul>

## Next steps to launch a pilot program are to:

### Secure support from the SWMA

- Leverage the capabilities of SWMA to increase glass recycling within the county

### Finalize Location Logistics

- Select a central drop off location
- Confirm cost and management of new location

### Phase 1

- Pilot a glass recycling program at the new site in Covington
- Gather feedback from residents on program

# Our team recommends the following for future consideration:

**1 Sort the glass at the centers by color to maximize profit from Strategic Materials.**

- Flint
- Amber
- Other

**2 Partner with local businesses for funding opportunities.**

- Grocery and Liquor Stores
- Bottle Manufacturers

**3 Look at increasing the number of locations throughout the county.**

- Resident Convenience
- Survey Residents to Gauge Interest and gather feedback from pilot program

# Thank You!

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