



Gaps in campus recycling



A GIS Study of methods for trash vs. recycling disposal at Virginia Tech

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Introduction

- Highlight where trash disposal versus recycling bins are located .
- Looking for gaps in the recycling infrastructure.
- Green RFP recommendation.
 - Opens twice a year
 - Submit a proposal recommending green infrastructure improvements



Development of Survey

- Purpose: to collect the locations of compacting trash and recycle bins, trash bins, and recycle bins.
- Collect information about bin type, condition, and take a photo.
 - Also a space for notes if needed

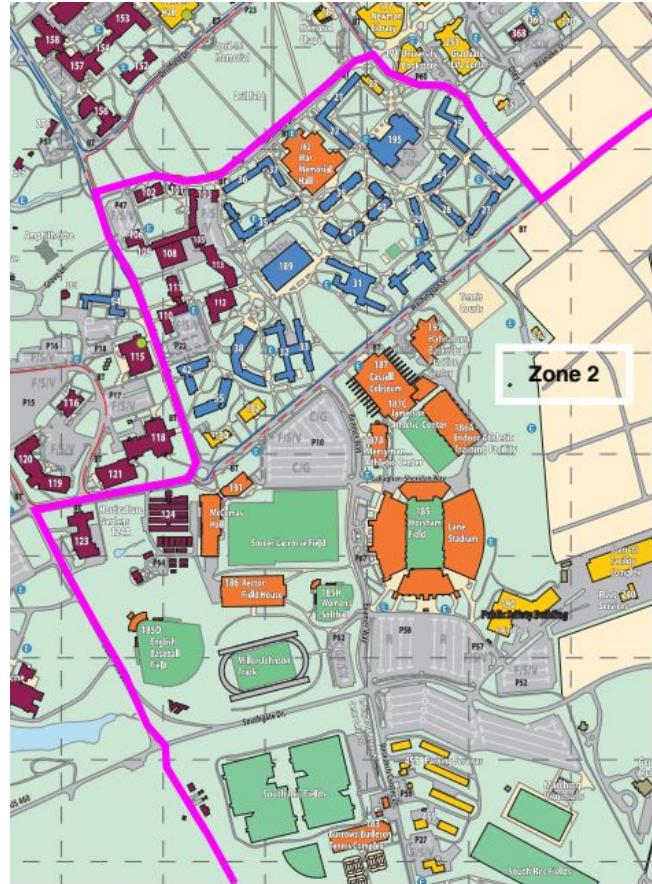
The screenshot shows a mobile application interface for a survey. At the top, there is a green header bar with the title "Recycling/Compacting Bins". Below the header, the survey's purpose is described: "Survey to collect information about the locations and status of recycling and compacting bins and normal trash bins in the residential and athletic areas of campus." The main form consists of several input fields:

- "What type of bin is it?" - A dropdown menu.
- "What condition is the bin in?" - A dropdown menu.
- "Picture of the bin" - A section with camera and gallery icons.
- "Notes" - A text area with placeholder text: "Fill in any additional clarifying information about the bin."

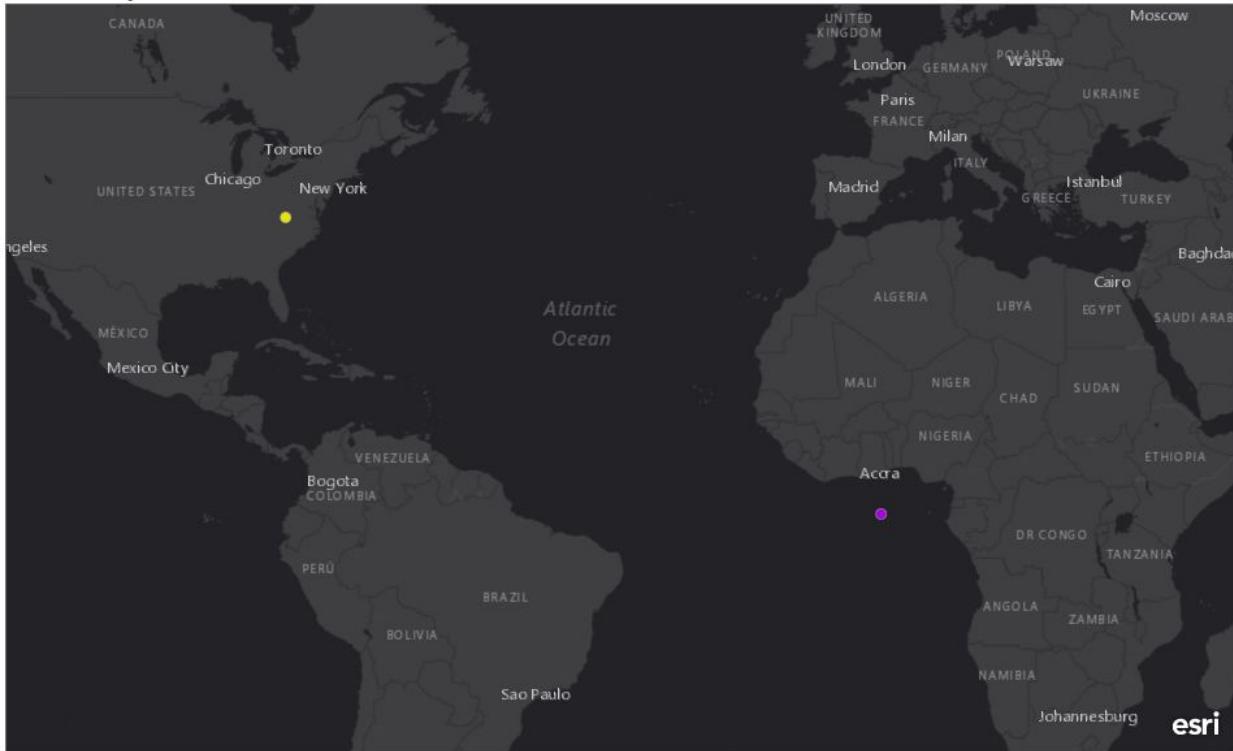
A large green button at the bottom right contains a white checkmark icon.

Data Collection

- **Zone 2**
 - Divided up into residential and athletic regions
 - Melody and Owen: residential region
 - Yang and Alisande: athletic region



Data Collection Continued...

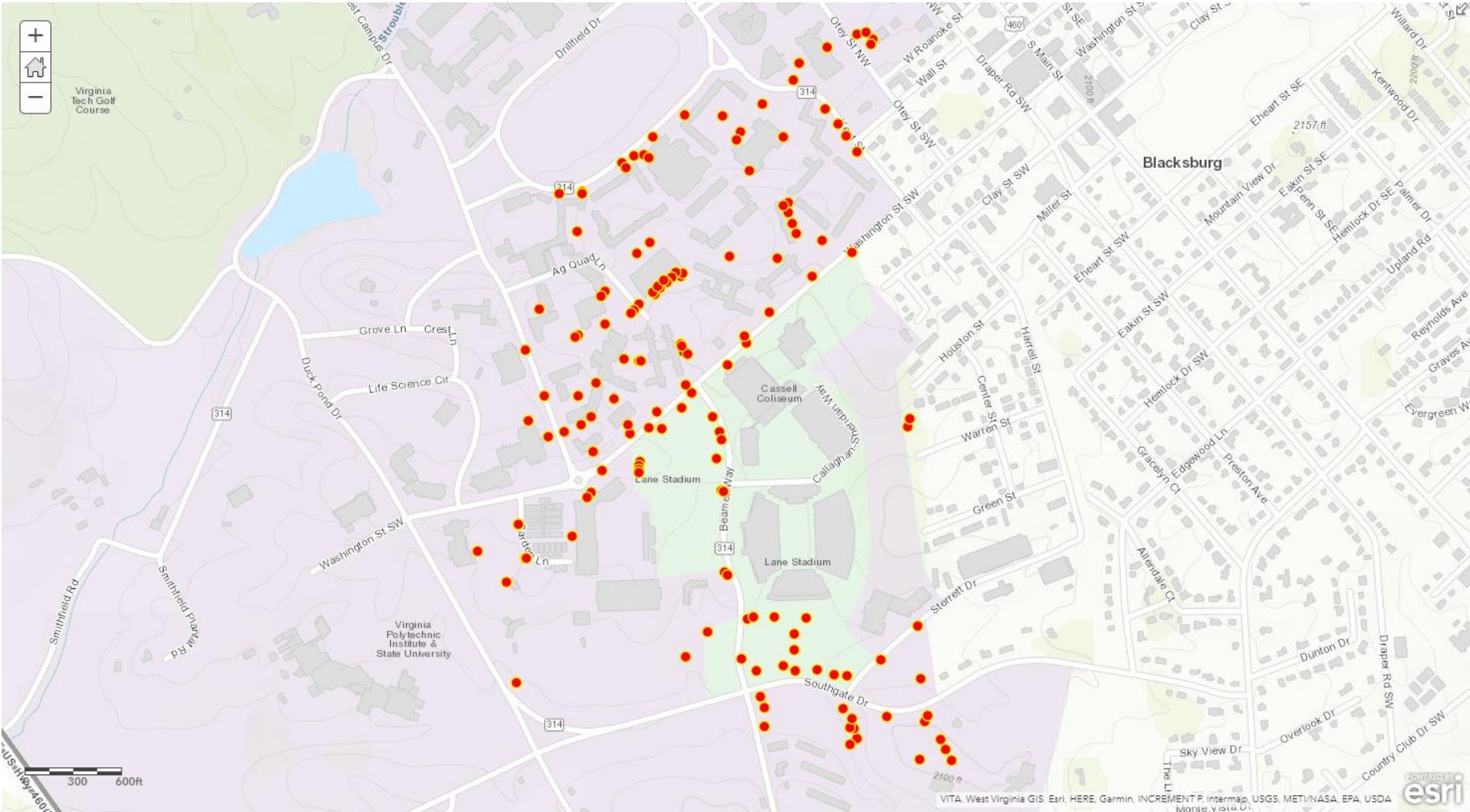


Map for the collection of points for compacting trash bins, recycling bins, and normal trash bins



To ensure we collect the most accurate data possible:

Walk up to the trash can and stand there for a few moments to allow your GPS to catch up with you. Then tap collect to start adding information about that point.

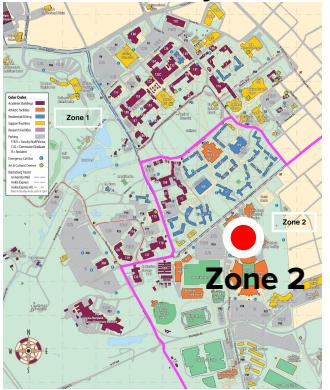


Bin Type

- Normal trash bin
- Compacting/recycling bin
- Recycling bin
- Other

Link to map:
<http://arcg.is/19Lnix>

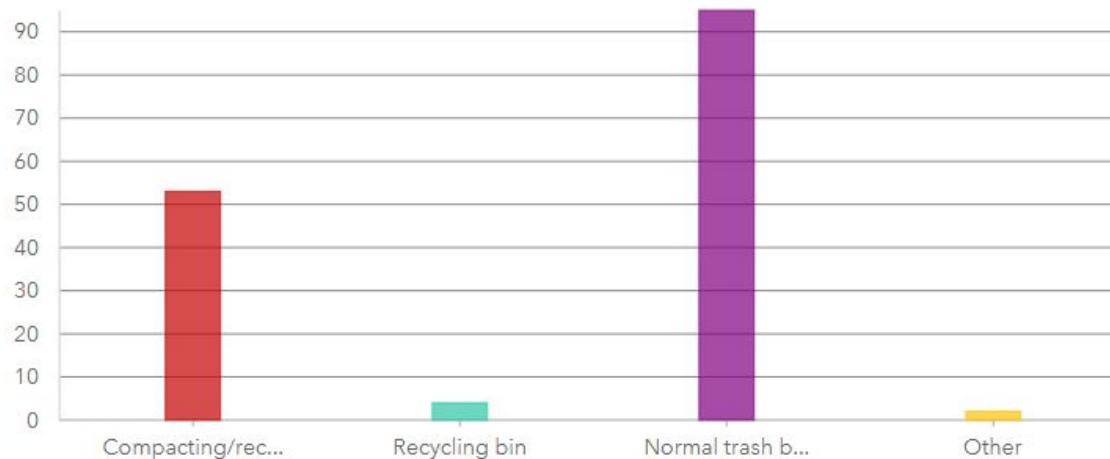
Selected Study Area



Map for the collection of points for compacting trash bins, recycling bins, and normal trash bins

0.2mi

What type of bin is it? *

[Column](#) [Bar](#) [Pie](#) [Map](#)[Hide table](#)[Other response](#) Empty categories[Sort ↑↓](#)

Answers	Count	Percentage
Compacting/recycling bin	53	34.42%
Recycling bin	4	2.60%
Normal trash bin	95	61.69%
Other	2	1.30%

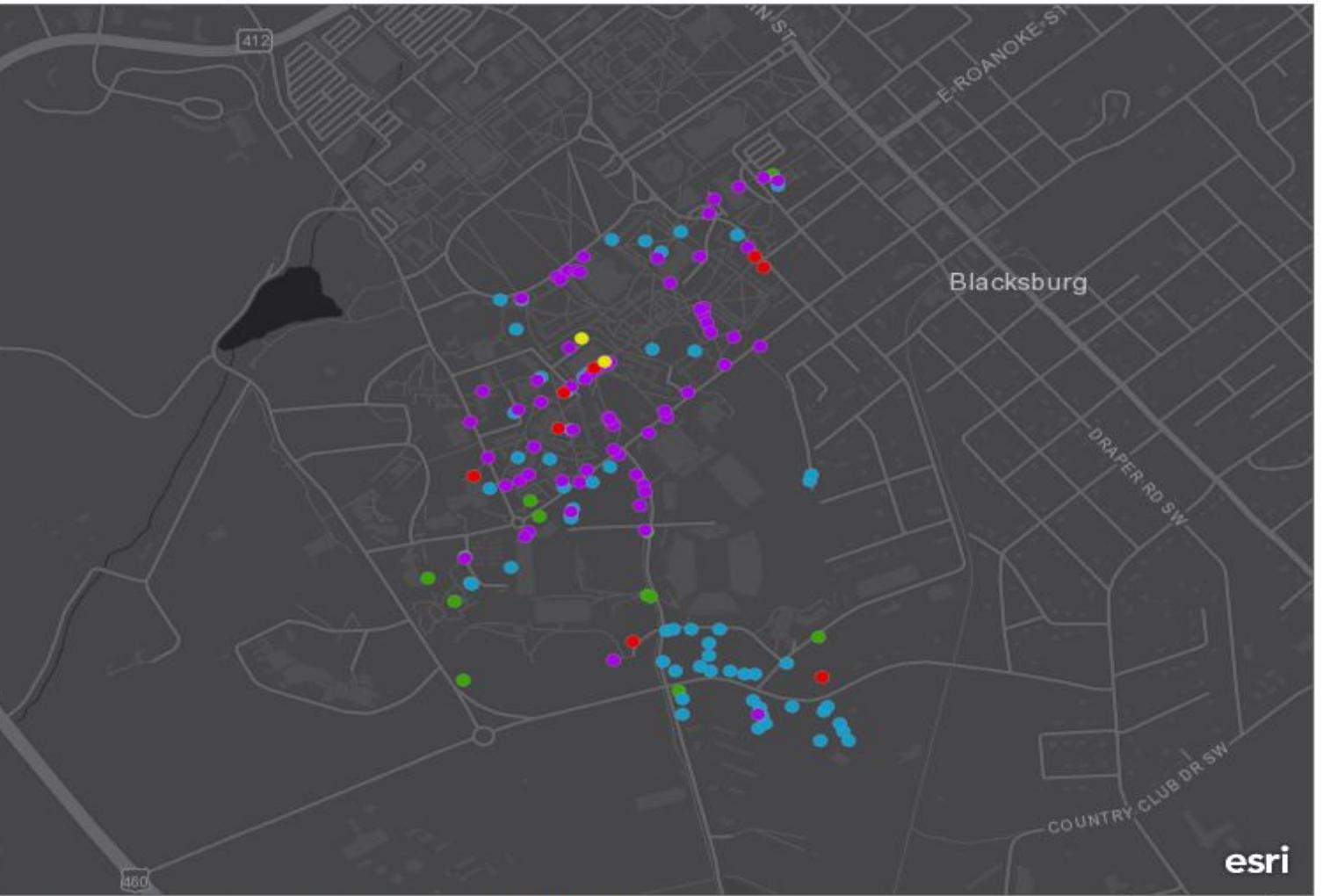
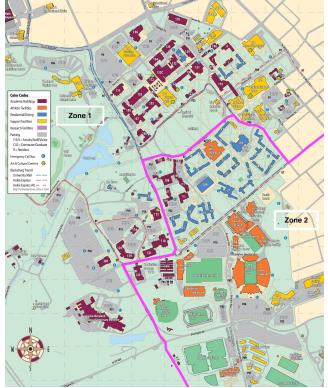
Answered: 154 Skipped: 0

Bin Condition

- Excellent
- Ok
- Good
- Bad
- Other

Link to map:
<http://arcg.is/1SqXPe>

Selected Study Area



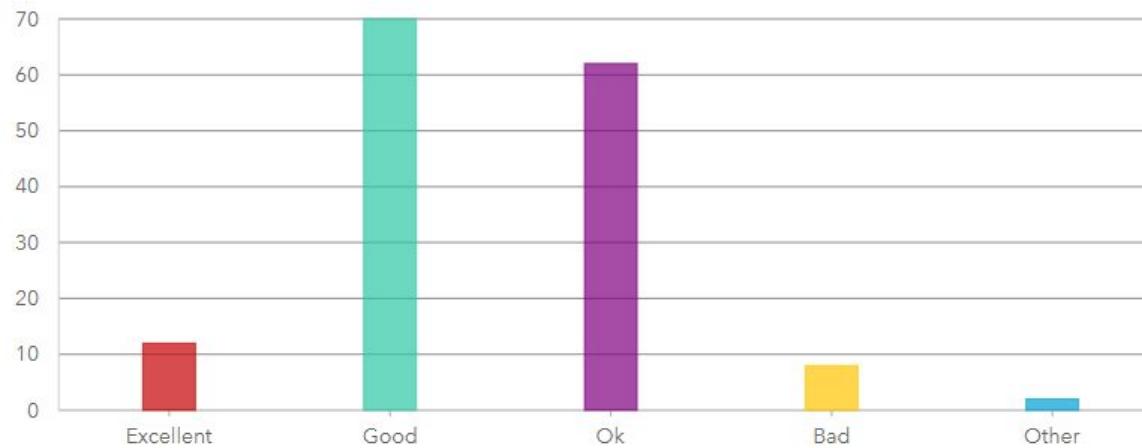
Map for the collection of points for compacting trash bins, recycling bins, and normal trash bins

esri

0.2mi

What condition is the bin in? *

Column Bar Pie Map



[Hide table](#)

Other response

Empty categories

Sort

Answers	Count	Percentage
Excellent	12	7.79%
Good	70	45.45%
Ok	62	40.26%
Bad	8	5.19%
Other	2	1.30%

Answered: 154 Skipped: 0

Challenges/Conclusion

- Condition of the bins
 - Interpretation
- Poor Cell Signal
- Poor GPS Signal
 - Buildings, Trees, Weather
- Different Understanding of Collection Parameters
- Difficulty updating survey in Survey123 app with changes made to survey from Survey123 website