

# SEAS (Umich) Master's Project Student Team



Environmental Commission Meeting (October 27, 2022)

# Team Introduction



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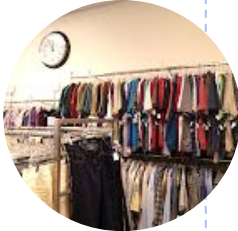
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# Key elements of our work:

- Pilot Case Studies
  - Ann Arbor Thrift Shop
  - Recycle Ann Arbor (RAA)
- GIS Map
- CE Actions tracker
- BIPOC Business Inventory
- Community Outreach & *Stories of Circularity* video series

# Pilot - Ann Arbor Thrift Shop: Floor Plan

## SALES AREA



## STORAGE AREA



# Pilot - Ann Arbor Thrift Shop: Annual Social & Environmental Benefits from Thrifted Apparel

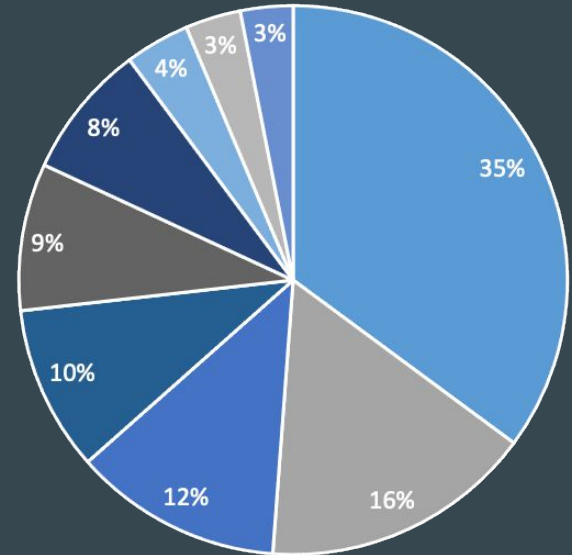
**1.06** Employee increase

**\$248,417** Production Avoided

**8861.1kg** CO<sub>2</sub> emissions reduction

Industry: Manufacture of textiles, wearing apparel and leather products

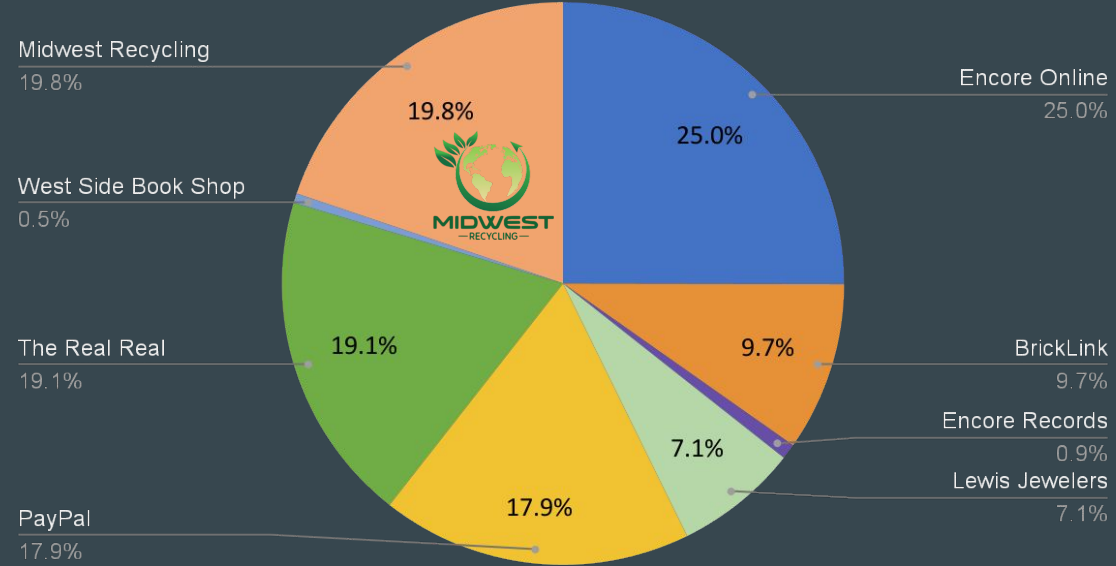
- WOMENS TOP
- WOMENS BOTTOM
- WOMENS DRESS, SUITS, BLAZERS
- OUTERWEAR
- MENS
- SHOES
- CHILD
- INTIMATES
- MENS BOTTOMS



Annual sales number from Aug 2021 - July 2022

# Pilot - Ann Arbor Thrift Shop: Circular Economy in Circular Economy

## Recirculating Donated Items



2021-2022 3rd Party Sales

**Midwest Recycling:** unsellable fabrics/textiles

**Encore Online:** antiques, Waterford, sterling, antique toys

**BrickLink:** Legos

**Encore Records:** LPs

**Lewis Jewelers:** gold jewelry pieces

**PayPal:** New Yorker covers, calendars

**The Real Real:** designer clothes, shoes, and handbags

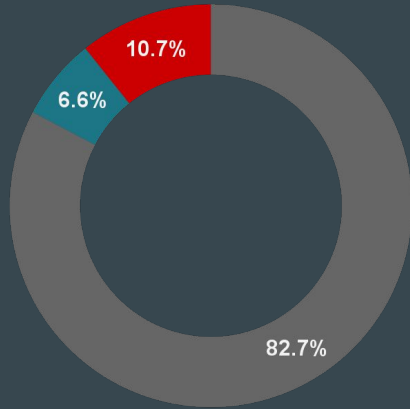
**West Side Book Shop:** books

# Pilot - Recycle Ann Arbor: Local Recycling Impact



Diverted from landfill in 2021

- Curbside Recycling
- Drop-off Station Recycling
- Construction & Debris Recycling



17 Sorters

7 Administrators/Equipment Operators

Hiring returning community members

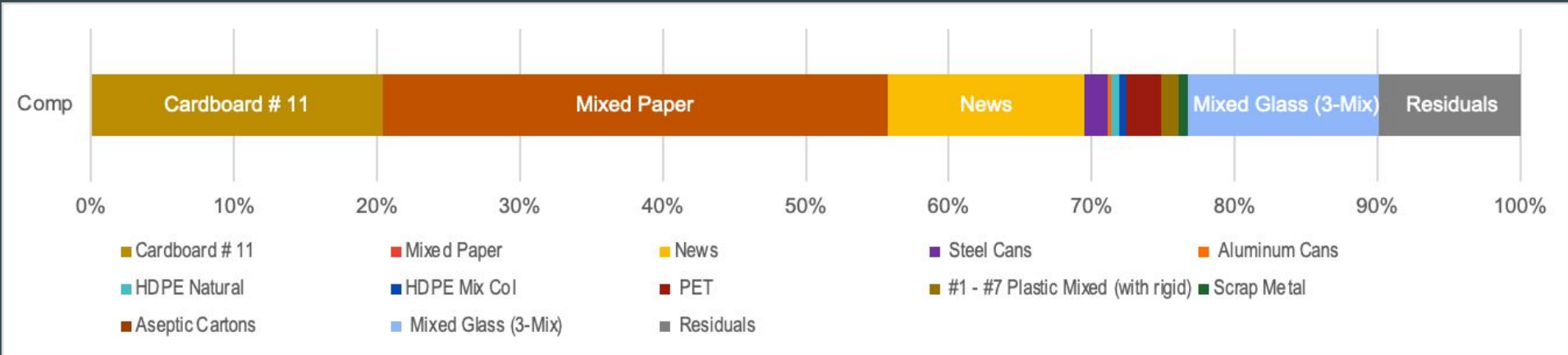
< 200 miles Regional markets

Codying **Highest and Best use** as a major outcome



# Pilot Case Study: Recycle Ann Arbor

## Composition - by commodity rather than bulk (2 comps/year or annually)



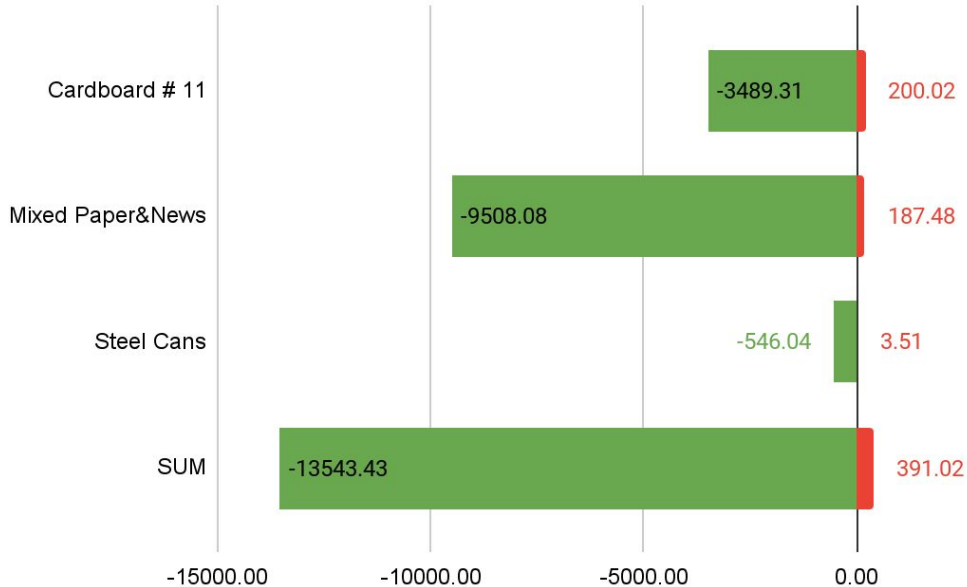


# Pilot Case Study: Recycle Ann Arbor

## Environmental benefits: Multi-commodity analysis (WARM)

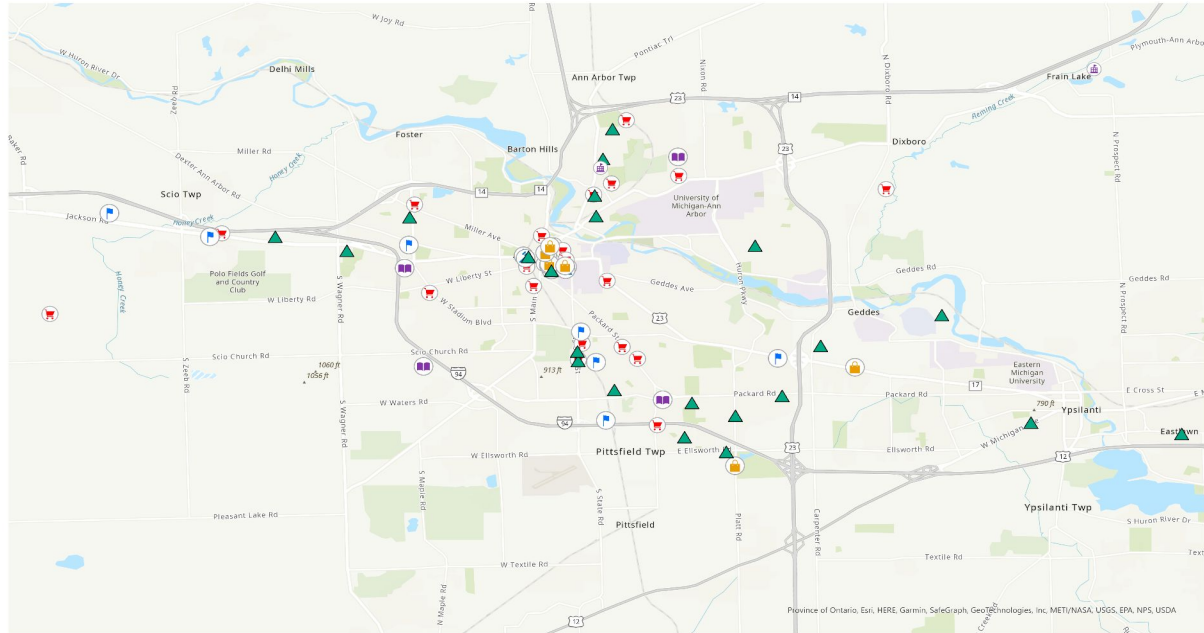
Comparison between Recycling Scenario and Landfilling Scenario

■ Total recycling emissions (MT CO<sub>2</sub>e) ■ Total landfilling emissions (MT CO<sub>2</sub>e)



# Ann Arbor Circular Economy Map

Distribution of Potential Circular Economy Sectors In Ann Arbor



- Food/Drink
- Library
- Repair shop
- Retail
- Social-Environmental
- Thrift Store
- Trade School

Sources: Data from city of Ann Arbor, Circular Economy. Data Coordinates are extracted from google map.  
Datum/Projection: WGS 1984/Geographic Coordinate System.  
Layout Map By: Tariku Negassa

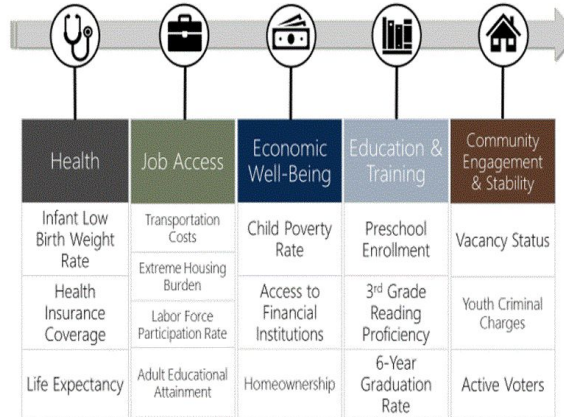
# Ann Arbor Circular Economy Map

## What Opportunity Index tells us:

- ❖ The Opportunity Index measures access to opportunity by combining 16 indicators into five categories:

- **health,**
  - **job access,**
  - **economic well-being,**
  - **education and training and**
  - **community engagement**
- and stability.**

- The Opportunity Index measures access to opportunity by combining 16 indicators into five categories of opportunity:

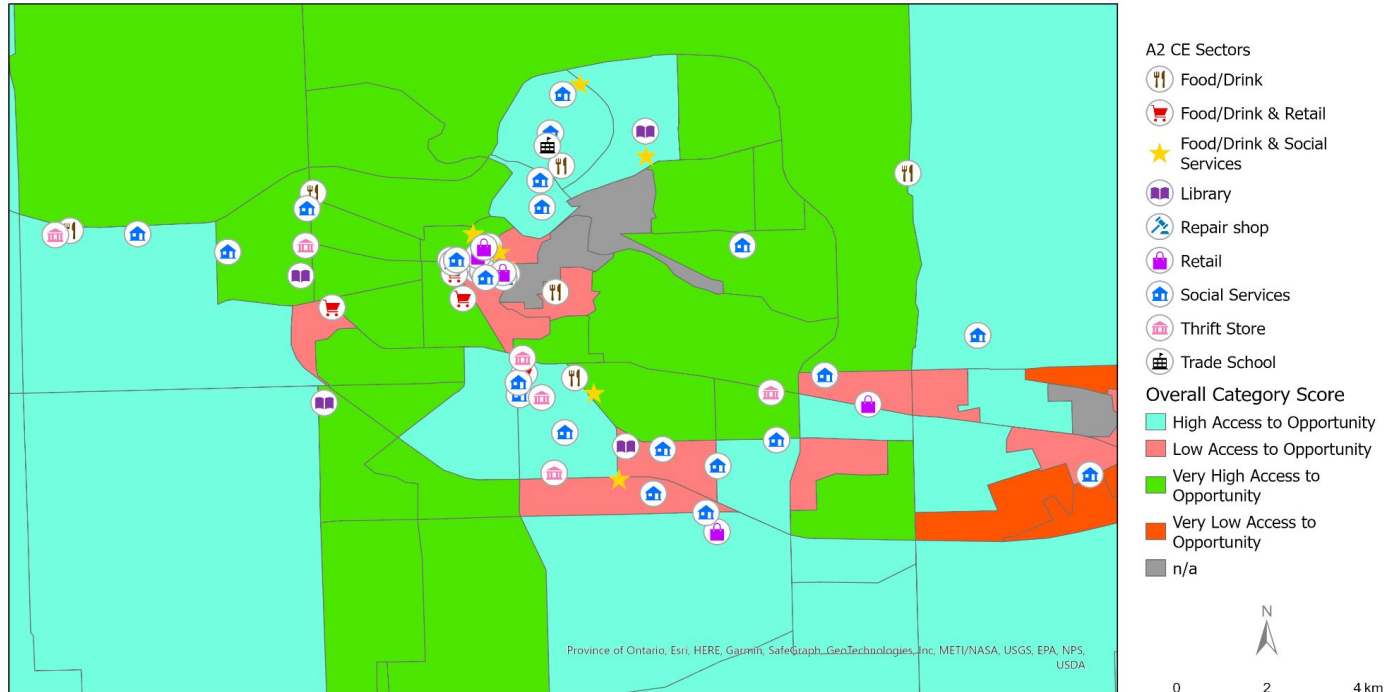


## Analyzing

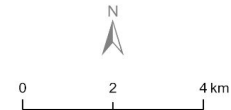
1. MI EJ screening tool
2. Washtenaw county opportunity Index maps

# CE Sectors Map with Washtenaw Opportunity Index Layer

Ann Arbor Circular Economy Sectors (Categorized) with Underlaid Overall Opportunity Access



Sources: Data from City of Ann Arbor: Circular Economy, Washtenaw County Office of Community & Economic Development (OCED): [www.opportunitywashtenaw.org](http://www.opportunitywashtenaw.org),  
Data geographic coordinates are extracted from google map using given google map addresses  
Datum/Projection: WGS 1984/GCS  
Map Layout: By Tariku Negassa



# CE Actions Tracker

- 30 CE actions have been planned so far
- Categorized them as 7R
- Ranked its influence level from local to nation, from business to non-profit
- Keep updating it from the interview/partner meeting takeaways

Action	Which R	Sphere of Influence	Levers of Change 1
Divest in fossil fuels	Rethink	Local	Policy
Make sure our procurement policy is in line with circular practices	Regenerate	Local	Policy
Training and partnerships with large employers	Recover	City Influencing Community	Capacity Building
Educational Campaigns/challenges (1.5 degree life case study)	Rethink	City Influencing Community	Outreach/Education
Create and support online platforms for reuse and sharing	Reuse	City Influencing Community	Technology
Design for disassembly (city requirements on developers)	Reuse	City Requirement for Community	Law
dumpsters in neighborhoods that have spots for white green and brown glass as well as paper. Common in germany	Recover	City Requirement for Community	Policy
E waste recycling pilot	Recover	City Influencing Community	Programs

# BIPOC Business Inventory

- 146 business in Ann Arbor & surrounding areas
- Starting 3rd wave of community outreach
  - 8 directly involved in circular activities
  - 15 more generally sustainable
- Plan to add to the map
- The City has secured funding to hire an equity consultant



# Community Outreach: Project Grow Event

- As an exhibitor for ProjectGrow's 50th Anniversary, Saturday Aug 20.
- Showed our concept of CE, Promo Video and Data Visualization.
- Attracted new people to be enrolled in the mailing list.
- Met Mayor Christopher Taylor.





# Community Outreach: El Harissa

## *Stories of Circularity Video*

- El Harissa is a family-owned restaurant in Ann Arbor that participates in Ann Arbor's Returnable Container Program (A2R3)
- CTN collected B-roll footage
- The video is a compilation of the footage that CTN collected and the interview that Yusef (the owner) had with the City team





# Next Steps (thru the end of the course)

- Inventory Survey - to create a CE baseline
- Upgrade the GIS map with other layers and details
- Final Project Report
- Community Outreach Assistance
- ACLCA Conference

