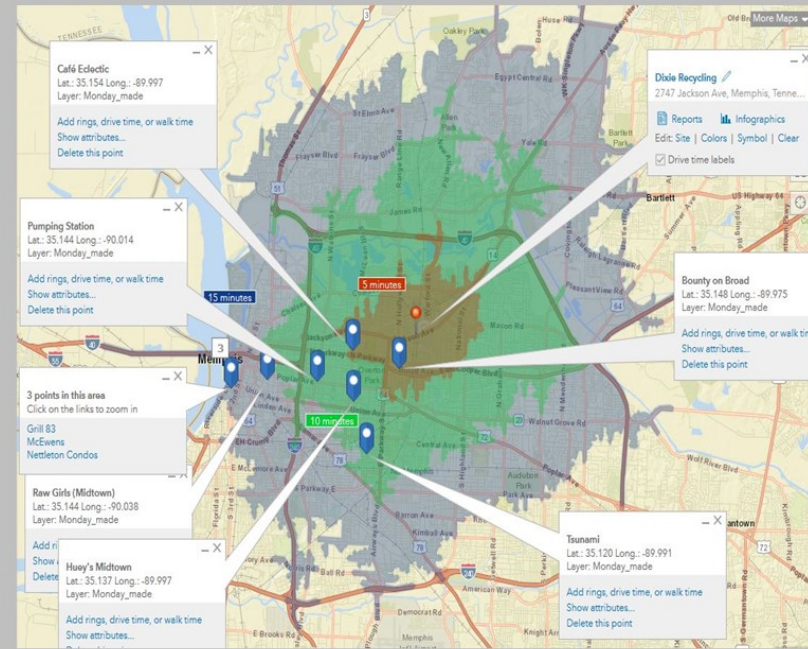


A New Chapter for Recycling: Using GIS and mixed methods approach to improve the market development and transportation of recycled materials.

From a Private Collector's Perspective
Esra Ozdenerol, PhD, The University of Memphis

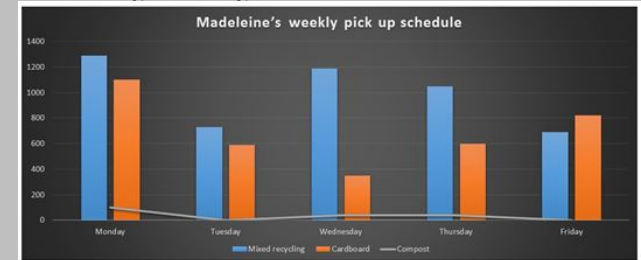


5, 10, 15 minute drive time analysis:
Towards Dixie Recycling for Madeleine's Monday Pickups at 9:00 am traffic

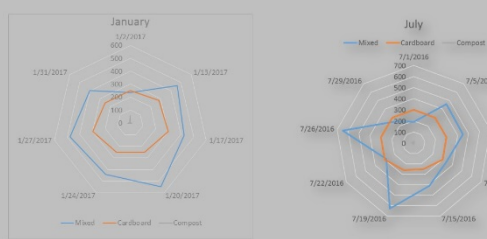


5 minutes	Mixed	Cardboard	Restrictions
Café Eclectic	240	150	Alley way
Bounty on Board	160	200	Key lock
10 minutes			
Pumping Station	160	20	Busy street, combo lock
Tsunami	148	50	Small parking lot
Huey's	64	280	
15 minutes			
Grill 83	64	150	
Mc Ewens	316	200	
Nettleton	200	50	Low clearance, parking garage, clicker
Raw girls	100(compost)	50	Compost only
Total 5/10/15	400/372/580	350/350/400	
Total	1352+100 (comp)	1100	

- PRIVATE COLLECTOR IIN CIRCULAR ECONOMY
- Reduce regular waste disposal costs
- Make recycling affordable
- Support the local and circular economy
- Train and educate on recycling
- Daily, weekly, as needed basis collection



Rendezvous' monthly comparison



- SMART CITIES WASTE MANAGEMENT
- Zero waste goal and high diversion rate
- Mandate waste, recycling and organic collections
- Collect data, track and analyze
- Establish baseline metrics
- Use web-based smart device solutions and monitor their assets in real time
- Leverage non-profits so cities can help them become more successful with what they are doing instead of the city taking control of the programs

Most pick ups are done in the 10 minute drive time and average traffic volume is 6,000 -15,000 vehicles per day. Composting is not common among restaurants. Mixed recycling materials are consistently picked up more in winter months than summer months, Cardboard is consistently picked up around 300 gallons with no seasonal change. Rendezvous, Whole Foods and Café Eclectic lead Memphis in recycling. More data collection and establishing baseline metrics are needed to create blueprint for all sectors –private, public and non-profit in the recycling domain in Memphis. Smart device solutions should be used so GIS maps and apps could monitor and reveal assets in real time. Initiatives should be taken towards a smarter, healthier, and more sustainable city by focusing on business and consumer education efforts, raising local business and community awareness of the economic development opportunities associated with recycling and recycling-related manufacturing.