

Austin's Circular Economy Program

By Jason McCombs; Madelyn Morgan; Skyra Rideaux, CPO; and
Natalie Messer Betts, CEcD

A GREENER MODEL OF ECONOMIC DEVELOPMENT

The city of Austin aims to transform the circular economy so discarded material can be put to its highest and best use. In a circular economy, goods are designed to be reused, repaired, shared, recycled, and remade. Waste is designed out of the system. This circular system has measurable economic impact, creating over \$1 billion in local economic activity and over 6,300 jobs in Austin alone. This article describes what the circular economy is, why the circular economy matters to economic development, how the city of Austin implements circular economy programming, and challenges facing the ongoing program, including how Austin hopes to address challenges in the future. Austin's Circular Economy Program received IEDC's Gold award for Business Retention and Expansion.

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austin's circular economy

PROGRAM

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INTRODUCTION

If you've attended a sustainable or social responsibility chamber event, you may have heard the term "circular economy." According to a 2015 Accenture report, the circular economy could unlock \$4.5 trillion in economic output by 2030.¹ Circular businesses have a measurable economic impact in Austin, supporting over \$1 billion² in local economic activity and over 6,300 jobs. The city's Circular Economy Program provides these businesses with no-cost, one-on-one consultations in navigating business incentives, workforce and talent, business connections, and city permitting.

In 2016, the city of Austin (Texas) established their commitment to sustainable economic development thru a partnership between the city's solid waste services utility, Austin Resource Recovery, and the Economic Development Department. This partnership supports the city's goal to achieve zero waste by 2040, which means keeping 90% of discarded material out of local landfills and incinerators. The partnership also aims to accelerate the transition to a more circular economy by supporting businesses, social entrepreneurship, and economic resilience.

This program seeks to transform Austin into a circular economy so every material can be put to its highest and best use locally, where every person has equitable access to economic opportunities, and every community thrives. In 2021, Austin's Circular Economy Program received IEDC's Gold award for its support of business retention and expansion for a city population larger than 500,000.

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CIRCULAR ECONOMY 101

It helps to understand the concept of a circular economy by demonstrating what it's not. In the current linear manufacturing system, goods are extracted from virgin resources, made into something, and then thrown away. This linear system negatively impacts the health and environment of communities, particularly among those harmed by decades of environmental injustices.

In a circular economy, goods are designed to be reused, repaired, shared, recycled, and remade. Waste is designed out of the system. Products and services are designed to mimic the regenerative cycle of nature. When a tree naturally falls in the forest, rather than becoming waste, it is reused as shelter for animals and insects and food for organisms, until it finally decomposes and returns its nutrients to the soil to nourish new trees.

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A special thank you to former city of Austin employees, Natalie Messer Betts, CEcD, and Skyra Rideaux, CPO, for their contributions to this article.

A GREENER MODEL OF ECONOMIC DEVELOPMENT

The city of Austin aims to transform the circular economy so discarded material can be put to its highest and best use. In a circular economy, goods are designed to be reused, repaired, shared, recycled, and remade. Waste is designed out of the system. This circular system has measurable economic impact, creating over \$1 billion in local economic activity and over 6,300 jobs in Austin alone. This article describes what the circular economy is, why the circular economy matters to economic development, how the city of Austin implements circular economy programming, and challenges facing the ongoing program, including how Austin hopes to address challenges in the future. Austin's Circular Economy Program received IEDC's Gold award for Business Retention and Expansion.

WHY CIRCULAR ECONOMY MATTERS TO ECONOMIC DEVELOPMENT

Devoting resources to support circular economy companies has numerous benefits for economic developers. Consider the concept of economic gardening: cultivating the talent and entrepreneurial potential of existing community to generate wealth. A circular economy framework builds upon this concept, creating jobs by cultivating and using existing resources. With the proper support, waste – typically seen as an economic burden – can become an economic engine. This flips the traditional belief that a community must be co-located next to a quarry, oil field, timber forest or the like to be resource rich. There are already resources and commodities in a community through the everyday items that are manufactured and consumed.

Many are surprised to learn the impact of the recycling industry. A study by the Texas Commission on Environmental Quality found the overall impact of recycling on the Texas economy exceeded \$4.8 billion in 2019.³

But it's not just recycling. Areas like food waste recovery and the secondhand retail industry have seen rapid growth in recent years. In 2020, 33 million people in the U.S. bought secondhand clothing for the first time. The secondhand resale market is projected to double over the next five years, from a \$36 billion to \$77 billion industry (ThredUp, 2021⁴). For food waste recovery, it's estimated that an annual investment of \$14 billion over the next ten years could drastically reduce food waste and provide a five-to-one return while creating an additional 51,000 jobs nationally by 2030. This is in comparison to unsold or uneaten food garnering an economic loss equivalent to 2% of U.S. GDP in 2019, or \$408 billion (ReFED⁵).

A city of Austin study on the economic impact of recycling and reuse-related jobs in Austin found over \$1 billion in local economic activity and over 6,300 jobs in 2020.⁶ This "new" way of doing business means job creation. It creates value from resources that have already been extracted. Products are mindfully designed to maximize reuse, enable repair, or simplify recycling. A circular economy aims to maximize the use of resources and goods, so that all people benefit.

A circular economy builds unique ties in the business community. Businesses are open to sharing resources

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DATA TO NOTE

- Austin diverts 42% of material from the landfill.
- 80% of discarded material could have been reused, donated, or recycled in Austin.
- Organic and compostable materials make up 37% of materials sent to local landfills in Austin.
- Businesses and apartments generated 85% of the discards in Austin.
- Single family homes generated 15% of the discards in Austin.

(<https://www.austintexas.gov/diversion>)

and helping each other grow to move the needle towards similar goals. It is not uncommon to see a 3D printing company, a bakery, a logistics technology firm, and a non-profit lending library all at the same networking event. Collaboration between businesses spurs new innovations and strengthens the entrepreneurial spirit within a community.

Residents facing employment barriers struggle to find well-paying jobs with opportunities for advancement. Growing a circular economy can help close this gap. Research shows that for every 10,000 tons of material landfilled, one job is created. Yet the same amount of material, sorted and recycled, creates 10 jobs. The same amount of material if it's recycled, reused, and remanufactured, creates 25 jobs.⁷

A circular economy is synonymous with innovation since a true circular economy doesn't exist yet. Dedicated time and resources to strengthen the budding industry is an investment in the future growth of a community. It will require new business models. As an economic developer, it is time to be on the frontier of what's to come.

THE CITY OF AUSTIN'S CIRCULAR ECONOMY PROGRAM

The city of Austin offers multiple services to businesses and the community to directly support the growth of circular economy businesses and to drive market demand to support job creation and local business growth and attract investment within the circular economy industry. Additional support for reuse and recycling industries aligns with the city's focus on attracting jobs for the hard-to-employ, supporting small business success, growing the manufacturing sector, and creating equitable economic opportunity for all residents.

In Austin, a circular business is defined as one that keeps resources in use instead of sitting idly. Six principles are used to define the circular business model. Business models can include one or more of these principles, except for Social Impact – which must accompany another principle.

- **Product as a Service:** Renting, sharing, or leasing products to replace single-user ownership.

The Circular Economy Program relies on a network of community partners. Local workforce development, small business support, chamber of commerce, universities, and non-profits are instrumental in the program's success. Partnerships with incubators and accelerators have been particularly important as circular economy activity is increasingly prioritized within early-stage firms.

- **Product Life Extension:** Using repair, refurbishment, donation, or other reuse methods to maintain products or find a second product user.
- **Waste as a Resource:** Using recovered materials as feedstock, or processing recovered materials like recyclables or organic waste.
- **Circular Design:** Designing products for disassembly with modular and flexible design; designing out waste; redesigning supply chains or using the cradle-to-cradle model of material use.
- **Sustainable Material Innovation:** Creating materials that are easier to recover by (1) increasing the product's durability (made-to-last), (2) using inputs that make items easier to recycle or compost, and/or (3) reducing or eliminating material toxicity.
- **Social Impact:** Businesses and organizations that support the social well-being and economic opportunity of their employees, supply chain partner's employees, or other Austinites, particularly those in underserved, marginalized, and historically disenfranchised communities, by (1) providing training or upskilling opportunities that support circular business practices; (2) teaching skills that reduce dependence on material consumption and empower citizens to conserve resources; and/or (3) removing or reducing barriers for clients or employees to participate in circular practices.

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AUSTIN'S CIRCULAR ECONOMY INITIATIVES

The initiatives listed below demonstrate how the city is working to create a resilient business ecosystem by supporting the reuse and restoration of local materials,

limiting landfill bound waste, creating jobs, and fostering entrepreneurial opportunity.

Business Retention and Expansion: Austin supports development in businesses looking to grow their circular models. This is done through no-cost, one-on-one consultations in navigating business incentives, workforce and talent, business connections, and city permitting. These consultations are different than traditional business engagements and can include identifying end markets for recycled or reused materials. The program features an in-depth interview with local businesses, exploring the challenges and opportunities in their company and industry.

Business Recruitment: One of the primary tools used is the State of Texas Chapter 380 Local Government Code which authorizes municipalities to offer incentives designed to promote economic development. The city works to recruit businesses that fill a need in the regional circular economy. This could be a material processor, manufacturer using recycled commodities, or a business providing reusable takeout infrastructure. Incentive benefits can include wages and property tax reimbursement. Firms that use recycled feedstocks or incorporate zero waste practices can receive additional points in the evaluation process for these incentives.

Ongoing Business and Entrepreneur Support: Staff curates a monthly newsletter of relevant funding, networking, and learning opportunities. There is also an online Circular Enterprise Resource Guide¹⁵ that provides a list of educational and ongoing opportunities for start-ups in the industry.

[RE]verse Pitch Competition: An innovative annual competition focused on turning raw materials slated to become waste into the foundation of new business ventures. Local institutions and organizations pitch their mostly landfill bound raw materials to entrepreneurs who compete to create a business idea to repurpose one or more of the materials. Competitors are paired with mentors and have 6 weeks to rapidly prototype their concept before a final submission is scored by judges. The top 4 teams enter the Innovation Fellow Accelerator to receive a cash stipend for participating in specialized educational content and submitting deliverables on topics like market validation, business model and goal setting, and pitch prep. At the end of the Accelerator, the Fellows receive



[RE]verse Pitch Competition, an annual competition focused on turning raw materials slated to become waste into the foundation of new business ventures.

entry into the Circular Austin Showcase to compete for additional prize money.

Circular Austin Showcase: This event connects circular economy businesses and entrepreneurs with potential investors in the region. Entrepreneurs and business owners pitch circular business ideas and meet with investors to grow their business. A panel of judges selects a winner to receive prize money to continue funding the business.



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Circular Meetups and Workshops: Meetup events are fast-paced, hour-long events that provide an opportunity for local business owners, start-ups, and sustainability professionals to connect and learn more about Austin's circular economy. The team also hosts workshops in partnership with local incubators, accelerators, or university programs. Additionally, staff brings in expert speakers to teach about topical subjects.



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Circular City Project: An internal deep-dive into the city's operational functions to increase circular practices during procurement and end-of-life, while maximizing the useful life of resources. The goal is to leverage the city's purchasing power to drive business innovations in the local private sector. By analyzing our own circularity and articulating our own vision for how the city can become circular, we can learn important lessons for a community-wide visioning and planning effort and lead by example: walk the walk before asking our community to walk alongside us.

MoveOutATX: A student move-out program that brings convenient donation stations to students living



MoveOutATX, a student move-out program that brings convenient donation stations to students living off-campus near the University of Texas each summer.

off-campus near the University of Texas each summer. Each year, thousands of pounds of material that would have been thrown into dumpsters or left at the curb are provided to local thrift stores and reuse organizations to be resold or given directly to clients and put back into productive use in the economy.

Fix-It Austin: These events provide online and in-person repair education to residents. Residents reserve time with local repair experts to repair clothes, tools, appliances and more. By choosing to repair broken items instead of replacing them, Austinites can build confidence in future repair endeavors, save money, and learn new skills by doing a DIY repair or supporting local repair shops.

Public Directories and Maps: Austin Resource Recovery offers resources to encourage residents to support circular economy businesses and visualize the local circular economy. The **Austin Reuse Directory**¹⁶ – an online directory of donation, rental, repair, and resale options – helps promote local circular economy businesses and educate residents on where they can support zero waste through their shopping habits. **Austin's Circular Economy Story Map**¹⁷ is a visualization of businesses and organizations that participate in Austin's circular economy. Through the map, users can learn about Austin circular innovators in each of these areas and how they collaborate with each other.

CIRCULAR ECONOMY PROGRAM CHALLENGES IN AUSTIN

Creating and executing these programs is not without challenges. For companies already in operation within Austin, it is not uncommon for existing circular economy practices to go unrecognized. Education and networking are key to expand a broader understanding of the circular economy definition and provide the opportunity for networking to make meaningful connections among these businesses to help them succeed. The city contin-

ues to conduct ongoing public education and networking events to address these issues.

Regional support is needed for a circular economy to succeed as the economy does not begin and end within the city limits. Shifting behavior change among businesses is also challenging. Take for example, the city's 5-year attempt at helping fund and oversee a business-to-business byproduct material exchange. The idea of a material exchange is that one business' byproduct output can provide raw inputs for another's operations. Exchanges were peer to peer and businesses were responsible for arranging logistics and transportation. The program required intensive outreach and facilitation from contracted staff to make trades and struggled to sustain unfacilitated participation. Similar programs have been more successful on a larger geographic level, as the economics become more viable to transport larger volumes of material.

Another challenge is the rising costs of real estate in the city, which can result in increased startup and operational costs for a processor or manufacturer. Austin's economic development program is a city-led initiative and is restricted to operation within the city limits. Developing end markets for recyclable commodities provides a regional benefit, but economic development collaborative support has historically been limited.

The city of Austin is researching methods to support regional circular economic development that expands beyond the city limits.

CONCLUSION

The city of Austin's Circular Economy Program embodies multiple trends in the economic development field: a focus on sustainability and resiliency, providing tailored services to meet the individualized needs of promising emerging sectors, leveraging strong community partnerships to meet our goals, and using the convening power of our role to bring unlikely collaborators together.

The circular economy is a reconceptualization of how the economy should function. It has the potential to be transformative for every sector, with leading U.S. and global companies already embracing the idea. To be best positioned to support the economy of tomorrow, economic developers should be developing a strategy for maximizing their communities' material resources and growing the companies that make a circular future possible.

To learn more about the city of Austin's Circular Economy Program, visit <https://www.austintexas.gov/circular-economy>.

ENDNOTES

- ¹ <https://newsroom.accenture.com/news/the-circular-economy-could-unlock-4-5-trillion-of-economic-growth-finds-new-book-by-accenture.htm>
- ² https://www.austintexas.gov/sites/default/files/files/TXP%20Austin%20Circular%20Economy%20Report%20July%202020_Final.pdf
- ³ <https://www.tceq.texas.gov/p2/recycle/recyclable-materials-feedstock-study>
- ⁴ <https://www.tceq.texas.gov/p2/recycle/recyclable-materials-feedstock-study>
- ⁵ <https://refed.org/>
- ⁶ https://www.austintexas.gov/sites/default/files/files/TXP%20Austin%20Circular%20Economy%20Report%20July%202020_Final.pdf
- ⁷ <https://ilsr.org/recycling-means-business/>
- ⁸ <https://www.usbcscd.org/>
- ⁹ <https://www.upcyclersnetwork.org/>
- ¹⁰ <https://www.recyclingstar.org/>
- ¹¹ <https://austinydc.org/>
- ¹² <https://sustainability.utexas.edu/>
- ¹³ <https://www.austincc.edu/offices/environmental-stewardship>
- ¹⁴ <https://ati.utexas.edu/>
- ¹⁵ <https://austintexas.gov/circularresources>
- ¹⁶ <https://austinreusedirectory.com/>
- ¹⁷ <https://kumu.io/ARRCircularEconomy/austins-circular-economy-story>

