

# Dirt Surfers

SOIL CYCLE PUTS A SPIN ON COMPOSTING YEAR-ROUND

STORY BY  
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**D**evin Filicicchia, 24, waited patiently for a break in traffic to turn left onto Spruce Street in Missoula, Montana. It was 4:30 PM, 9°F and blowing, and Filicicchia was riding a bicycle. Finally, an SUV flashed its lights. Filicicchia waved and pedaled into the intersection.

His bicycle, a blue electric Yuba, had studded tires to keep him upright on the icy roads. A matching blue trailer holding three large bins followed. An orange flag and red reflectors marked the tail of his trailer. Above his rear wheel, a sign alluded to his purpose: “Composting Services & Education.”

Hands stuffed into pogies, eyes focused on the road, Filicicchia pedaled. He had six compost pickups to tackle before nightfall. The sun was low on the horizon.

Filicicchia is an independent contractor for Soil Cycle, a compost collection nonprofit that opened in late 2017. Once a week, he rides through the city’s downtown to collect food scraps from paying subscribers that might otherwise wind up at the landfill. Soil Cycle composts the scraps at its facility, turning it into rich soil.

It was a typical winter collection day, though colder than most. Fresh snow from Saturday’s snowstorm lay atop an icy layer. It had been one of the coldest spells of the season — 12 days of maximum temperatures below freezing.

“The days that I think are going to be the worst are okay because I’m prepared,” Filicicchia said, his nose and ears stinging.

To keep out the January bite, he wore tall rubber boots, gloves, a puffy jacket, and a balaclava over his mustache. For safety, he wore a helmet and goggles with clear lenses to keep out road spray or surprise precipitation.

When he first arrived for his shift that day, Filicicchia struggled to open the Soil Cycle gate, which was frozen shut. He warmed the lock with friction using oil, hand warmers, and gloves. After nearly 30 minutes, he walked past two steaming piles of compost and into the office. Underneath a wall decorated with produce

stickers from subscribers, Filicicchia unplugged one of two eBikes and rolled it outside. He then attached a repurposed, steel-framed trailer carrying two 30-gallon bins and one 32-gallon bin to his bicycle.

Filicicchia loves cycling. Before moving to Missoula in 2020, long bike rides on the busy streets of Atlanta helped him cope during the height of the pandemic. But “soil cycling” had to grow on him. He began in January of 2022 when winter was in full force.

“I felt like every week in the winter, I was having to drag the bike and trailer through a snow drift that I couldn’t bike through,” Filicicchia said. “Slowly, I learned goofy little techniques to just pedal faster than I should, and then I would be surfing my way through.”

In addition to pedaling Soil Cycle routes, Filicicchia briefly worked as its operations assistant and recently became vice president of the board. He has cycled compost in all four seasons, taken a few spills, and brushed up on bicycle maintenance. He recently cut down to just one route each week after landing a full-time job as a civic education organizer with Forward Montana, a nonprofit that encourages young Montanans to become involved in local politics.

At Filicicchia’s first stop, two buckets sat outside of a business door, neither very full. He used a short shovel to break up the frozen compost, then tossed it into one of the bins. During warmer months, he uses a silicone spatula and paper towels to clean out customer buckets. In the winter, he uses sawdust, which helps with odor control and loosens the sticky scraps from the bottom of the container more easily.

The single-digit temperature would freeze his hands if he paused too long, but at least it freezes the smells of the waste, especially what he calls “big, juicy” buckets. Executive Director Hannah Brown, 26, has a different spin on the earthy odor. “Compost can be a little smelly, sure,” she said. “But the smells are actually really neat because they’re telling you a lot of different things about the microbes and the

other things working really hard inside the compost pile.”

**C**omposting is not the easiest — or best-smelling — task, especially for busy homeowners and offices with limited space. In exchange for food scraps and a monthly subscription fee, Soil Cycle offers to do the dirty work for them.

Soil Cycle offers options to its 255 subscribers, according to Brown. About 150 subscribers drop off their waste at one of three locations around Missoula. The price for this service ranges from just under \$11 to \$25 a month depending on how much they drop off. Fourth and fifth locations are coming soon to make drop-off services more accessible.

About 90 subscribers prefer the convenience of a biweekly or weekly home or business pickup. Their fees range from just under \$21 to \$33 a month. Filicicchia and nine other cyclists tackle these pickups, cycling over 2,080 miles in 2022, according to the nonprofit’s year in review statistics.



Devin Filicicchia empties a subscriber’s food waste bucket onto his trailer as the sun begins to set.



The Soil Cycle team of cyclists, board members, and volunteers welcomes community members to their office and workspace year round to learn about composting.

Most subscribers are residences, but about 20 businesses, churches, and offices offer composting for their employees and members.

Some subscribers fill their five-gallon buckets up to the brim while others throw out less. Soil Cycle estimates that each subscriber diverts 250 pounds a year from the landfill. In total, Soil Cycle processes 150,000 pounds of waste a year and turns it into nutrient-rich soil.

Business is good, and it is good for the environment. According to the EPA, organic matter including food makes up 24 percent of all municipal landfill waste. Food releases methane as it decomposes, a greenhouse gas that is 80 times worse than CO<sub>2</sub>. This is bad news for a warming planet and exactly what Soil Cycle aims to lessen through the human-powered composting process.

After the weekly food scraps make it back to the Soil Cycle yard, the team adds the organic waste to one of several active compost piles that use different techniques to break down the waste.

Their vermicompost process feeds organic waste to worms that feast on the matter in just a few weeks. The worm's excrement — worm castings — is a nutritional fertilizer. This process mostly happens indoors at Soil Cycle. The team hopes to expand vermicomposting outdoors, but keeping worms alive through the winter in western Montana is difficult.

Soil Cycle's thermophilic piles are hot, steamy piles of compost that rely on microorganisms to break down the waste over three to four months. Held together with wooden boards and chicken wire, the two outdoor piles allow oxygen, moisture, heat, and healthy bacteria to work their magic in tandem. For the process to work, the pile needs to be flipped about once a week if the weather is above freezing.

After a few weeks or a few months, depending on the process, the waste-turned-soil is almost ready. Sifting the soil to make sure contaminants don't end up in the final product is one of the final tasks. The Soil Cycle team feeds the soil into one of two repurposed sifting devices: an old cement mixer turned by hand and a basin turned by pedaling a stationary bike. Avocado pits, corn cobs, or produce stickers are some common contaminants that are weeded out.

In contrast to large commercial services that use machinery to create compost, Soil Cycle's compost is made by hand. The nonprofit estimates this hands-on, more time-consuming process offsets over 54,800 pounds of CO<sub>2</sub> emissions each year.

Finally, the soil is bagged and sold at seven gardening and variety stores in western Montana and used in Soil Cycle's own demonstration garden. About twice a year, Soil Cycle team members and volunteers host a "give back ride," where they deliver a bag or two of compost to subscribers to use in their own gardens.

Soil created through composting is nutrient rich and a natural pest repellent. It also retains water more effectively so gardeners can save water in a dry region. Even small-scale gardens often yield food that is eventually eaten or composted again. It is the soil cycle in practice.

After a frigid five-minute stop at his first pickup, Filicicchia pulled out his phone and typed a weight estimation of the business' food scraps — about five pounds. With the next location in mind, Filicicchia

lurched his bike forward to disengage the kickstand and hopped on.

The first stop had not taken long, but the temperature had already dropped a degree. Night was coming fast.

Using hand signals, Filicicchia signaled a right turn and veered onto East Main Street. Snow had been packed down since the beginning of the winter season, covering the street in bumpy "mini moguls." He rode at about 6 MPH, slow and steady. The bins in his trailer bumped behind him.

"I'm always scared I'm going to lose a bin in traffic," Filicicchia said. When he encounters an unplowed road, or a road with a median of snow, sometimes several feet high, left turns are nearly impossible. At the same time, Filicicchia takes it as a challenge.

"I think I've come to embrace, and maybe enjoy, the slipperiness. It feels like mountain biking or something, where you're almost always about to fall, but trying to figure out ways to move your body and momentum so you don't," Filicicchia said.

"Brown sugar snow," the slippery slush that resembles the sweet stuff, is another obstacle. Although the second-hand trailer is cumbersome, it helps stabilize the bike on winter roads. Filicicchia rides confidently, though carefully and slower than normal, down the road.

Filicicchia repeated the collection process at the Adventure Cycling office and then a residence on Pine Street. Taking the buckets from the stoops, he broke up the frozen contents and tossed them in the bin. He quickly

cleaned the buckets before returning them. The repetition is simple, relaxing.

The sun began setting behind the buildings, casting long shadows across the road.

The Soil Cycle bikes have a bell, but they are too awkward to get to with gloved hands in the wintertime. It's mostly unnecessary. "The squeaks and shudders of the

bins are enough to let people know that I'm behind them before I say anything," Filicicchia said.

His presence on the streets — especially in extreme cold or hot temperatures — often leads to exclamations of "I can't believe you're riding your bike in this weather!"

He gets plenty of strange looks but also many smiles while on his route.

"I think it's cool when folks come up and are so curious to learn more, to

*He warmed the lock with friction using oil, hand warmers, and gloves.*





## DIG IN

Soil Cycle has a bounty of resources for composting on its website, from educational materials on everything related to composting to workshops for kids and adults. Whether you're looking for information on what can and cannot be composted or want some ideas on how to care for a compost system, visit [soilcyclemissoula.com](http://soilcyclemissoula.com).

Composting with an organization like Soil Cycle can take a lot of the time, energy, and guesswork out of the process, and it's a great option for many people, especially renters, businesses, and those with little yard space. If you're interested in finding a similar option close to you, more towns and cities are creating resources to help people compost, whether that's a community garden drop-off, a biodegradable section at a local dump, or an organization like our beloved Soil Cycle. A quick internet search should steer you in the right direction.

If you would like to Do It Yourself, the options are varied. For a totally DIY project, there are plenty of ways to make your own compost bin on the cheap, and lots of blueprints available. One resource is [makesoil.org/diy](http://makesoil.org/diy), but options abound depending on whether you're looking for something to make soil for growing vegetables or just looking for a way to dispose of your food in a more ecologically sound manner.

If you'd rather purchase a compost bin, companies like Lomi make expensive, digital options for your countertop for up to \$500 ([lomi.com](http://lomi.com)) while more rudimentary options are available for as low as \$35. The important thing for the non-digital options is that you should be able to stir the compost material, whether by rolling the bin on the ground, stirring it with a stick, or using a crank system.

For more information on composting, check out *Backyard Farming: Composting: How to Plan, Build, and Maintain Your Own Compost System for a Healthy and Vibrant Garden*, by Kim Pezza, available through [microcosmpublishing.com](http://microcosmpublishing.com).

hear why I'm picking up food scraps on a bicycle," he said.

Several times, passersby have tried to throw away their trash in Filicicchia's trailer bins. It gives him an excuse to explain that the food scrap waste he carries is different than landfill trash. This stuff will become soil, and non-compostable trash will contaminate the batch. This positive spin on the situation is part of the organization's mission.

"We're trying less so to be this waste management facility and trying more to be this place that teaches you about [composting], while also helping you do it if you need," said Brown. Every interaction with a community member, Soil Cycler or otherwise, is an opportunity to connect and educate.

**S**oil Cycle aims to be as human powered as possible, but Filicicchia admits the job would be easier and more time efficient with a truck or car rather than a bike. He chooses to ride one of the nonprofit's electric bikes rather than a manual one, but by bicycling instead of driving, the nonprofit estimates it avoided releasing 2,627 pounds of CO2 emissions into the atmosphere in 2022.

Soil Cycle hosts live workshops around Missoula and posts helpful composting information on its social media accounts and website. Filicicchia and his trailer are like a bicycling billboard — a free and unique way of advertising.

Soil Cycle relies on compost subscriptions, sales of soil, donations, and grants to keep running. The nonprofit began as a co-op and shifted to an LLC before realizing a nonprofit was the best option for its mission. One of over 1,000 registered nonprofits in Missoula, Soil Cycle participates in Missoula Gives, an online platform for nonprofit fundraising campaigns led by the Missoula Community Foundation. Soil Cycle also hosts its own fundraiser in the fall called the Houseplant Adoption Fair, where community members gather to donate and celebrate the nonprofit. Last year, a generous Climate Ride participant chose Soil Cycle as their beneficiary, providing thousands of donation dollars that Climate Ride, a charitable Missoula-based nonprofit, matched.

Though covered in snow this time of year, the Soil Cycle yard boasts a demonstration garden meant to educate visitors on

the different types of compost and how they can do it themselves. Soil Cycle welcomes school and club groups to their site for a hands-on experience. In 2022, its employees taught 35 different groups, from preschools to universities.

Brown and other team members host live workshops and larger educational events at local breweries or offsite locations. The number of events hosted grows as the weather warms.

In spring, Soil Cycle will focus more energy on soil education. It hopes to grow and improve the demonstration gardens

and invite more community members to learn about composting. "We love to interact with our members when they come to drop off their compost or when we pick up their compost," said Brown. "But we also love to get folks onto our site, including all of our members, school groups, kids, our neighbors."

**A**lthough the number of stops varies every few weeks, Filicicchia has

his routes memorized. On nice weather days, it is a simple task. His stress from the day fades on the road. In winter, his routes require more balance and concentration to keep upright. "It's type two fun," he said — enjoyable in retrospect, but difficult in the moment.

Filicicchia arrived at his fourth stop, a church building, and switched out the 32-gallon bin from his trailer with the full bin. He still had two more stops, but his trailer was full. He swung by his own home — an unofficial compost pickup stop — and made it back to the Soil Cycle yard by 5:15 PM to unload his haul.

Two miles of icy road and six stops is nothing, he said. Next week, he would pick up compost from 18 different locations.

On a freezing January evening, 135 pounds of food scraps will begin the process decomposing into soil instead of wasting away in a landfill.

The soil cycle continues as Filicicchia set out again. The temperature had fallen to 5°F, and the sun was setting. ❄️

*Sage Sutcliffe is a freelance journalist based in Montana who enjoys keeping up with her family on mountain bikes and sharing stories about the human-environment relationship.*

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