

Electric scooters: Love or hate them? Here's what you need to know

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Scooters used to be toys only for children. Their motorized descendants, however, are now popular among adults.

Last year, Americans took 38.5 million trips on shared scooters in more than 100 cities, according to the National Association of City

Transportation Officials (NACTO), a nonprofit organization. Those trips accounted for almost half of the 84 million trips—more than doubled from 2017—taken on "shared micro-mobility" options that also include station-based bikes and dockless bikes.

As people look for ways to get around congested cities faster, scooters have gained in popularity. But their emergence has drawn criticism that the vehicles are risky both for riders and pedestrians.

Some cities, such as Chicago, launched pilot programs for sharing scooters in June, eyeing the potential to ease congestion and pollution brought by cars. Portland, Oregon, launched a 120-day pilot program last year and a one-year program this year that started in April. New York State passed a bill in June to legalize the vehicle, though renting them is prohibited in Manhattan—you have to own one to ride it.

But some cities said no, or at least not now. Last month, Chattanooga, Tennessee, issued a six-month ban of the conveyance. San Francisco and Beverly Hills once took similar approaches. Nashville's mayor called for a ban on the vehicle following the city's first scooter-related death, but the Metro Council rejected the plan—the legislative institute decided to reduce scooter fleets instead.

City officials and residents have conflicting attitudes toward electric scooters. And in many places, its regulation still falls into gray areas.

Why people love electric scooters

You can easily ride a scooter, with a top speed of 15 to 30 mph, to the nearest subway stop a mile away or other destinations 5 miles out, and travel faster than cars during rush hour. Unlike bikes, they can keep you from getting sweaty before you arrive at work or to meet friends. Many people rode scooters in childhood, which makes them familiar and

appealing for commuters.

After scooter startup Bird deployed its first fleet in September 2017, bike-sharing companies Spin (acquired by Ford last November) and Lime, and ride-hailing giant Lyft and Uber dipped their toes into the scooter market by launching their own fleets last year. Other key players include Skip and Scoot, which was acquired by Bird in June.

The scooter startups have raised more than \$1.5 billion in funding and the global market is expected to reach about \$40 billion to \$50 billion by 2025, according to Boston Consulting Group.

"People are just trying to find ways of getting from A to B faster," said Rasheq Zarif, Deloitte's leader in future of mobility tech. It is kind of a "prime time" for ride-hailing and micro-mobility transportation, he said, with the prevalence of smartphones and advancement of technology like GPS, as more than half of the world's population lives in urban areas that are crowded with cars.

Scooter hazards: safety and parking

City officials opposing scooters cited safety as their major concern and worry they would block sidewalks if they were parked inappropriately, impeding pedestrians and people with disabilities.

After electric scooters were introduced, several hospitals at various locations saw spikes in scooter-related injuries at their emergency rooms. Since the fall of 2017, at least eight scooter riders have died and 1,500 have been injured, according to Consumer Reports. Emily Hartridge, a TV host and YouTube star, died after her electric scooter crashed with a truck in London. Last week, a person in Atlanta died in a crash with an oil truck while riding a scooter.

Despite the news, experts said there were limitations in existing data, which may not be enough to justify scooter bans. Most research into scooter-related injuries didn't provide the total number of rides, said Alex Epstein, director of transportation safety at the National Safety Council. They also didn't compare the injury rates with that of other vehicles, he added, considering scooters are replacing some cars and bikes.

"You don't have a sense of what is happening citywide. All you have is a sense of what the injuries are," he said. "People have to realize that operating any motorized vehicle is inherently dangerous and that it is up to the driver to operate the vehicle in a safe way."

Motor vehicle crashes are tracked by the National Highway Transportation Safety Administration, but no entities follow scooter-related injuries in a similar way, which also adds to the difficulty to collect enough quantifiable data, said Deloitte's Zarif.

Kevin Fang, a professor at Sonoma State University said the parking issues around scooters are "a bit overblown", after studying where the vehicles were parked in San Jose, California, with his fellow researchers. He said though most of the vehicles were parked on the sidewalk, they stand either "on the edge" of it or in the so-called "Furnish Zone" that is already blocked by benches and planter boxes.

Companies built 'safer' scooters

Scooter service providers are working to address the problems, as well. They have distributed free helmets, held safety training, and are developing their own models, which the companies said are "more durable", though most operators started the business by sourcing from the few Chinese suppliers.

Last year, Lime "voluntarily pulled" an unknown number of scooters from its fleets twice due to safety concerns. One was because some Segway Ninebot products' batteries were destabilized "largely by misuse" and another related to manufacturer Okai's baseboards being broken "when subjected to repeated abuse," the company said.

Lime once used many different manufacturers for its scooter production, according to a company spokesperson. All of Lime's scooters in use now, including its Generation 2.5 and 3.0, were designed completely in house, the person said. The two generations were both launched in October last year.

After sourcing most of its scooters from Xiaomi and Segway Ninebot, Bird has launched its own models Bird Zero last October, Bird One in May, and Bird Two earlier this month. "We saw kind of how those initial vehicles performed, and we felt that we could build something that was more durable, safer and sustainable," said Rebecca Hahn, Bird's chief communications officer.

In addition to the dockless scooters for sharing on the streets, Bird One is also available for purchase at \$1,299 and for monthly rental at \$25 per month in San Francisco, to "meet the needs of different use cases and in different cities," said Hahn.

Boosted, a startup founded in 2012 that debuted with its flagship electric skateboards, is a newcomer to the market. The company touts its latest product Boosted Rev, which started shipping last month, has "vehicle-grade durability."

Its electric scooter has a top speed of 24 mph, can go up to 22 miles on a single charge and has three brakes, including an electronic one, according to the company. It costs \$1,599, compared with Segway and Xiaomi's scooters that range from \$400 to \$800.

"We've adopted a lot of the fire safety and impact and durability standards from the automotive industry for electric cars and adopted them to the standards we've built," said Boosted's CEO Jeff Russakow, who compared the company's approach in electric scooters to Tesla's.

Different from other providers, however, Boosted aims to sell its scooters directly to consumers, saying owning instead of sharing helps reduce safety and parking issues. Russakow said riders who own a scooter are more likely to wear a helmet and educate themselves before going on the streets. They can also take the vehicle to the office and fold it under the desk, instead of parking down the roads, he added.

Own or share? What's next?

Experts said it is still too early to say whether sharing or owning will prevail.

"When you see that kind of adoption, it's quite attractive to find other forms of business models in order to capture some sort of share," said Zarif. He estimates that within next year, companies will come up with new forms of micro-mobility vehicles other than [electric scooters](#) to offer commuters more choices.

Fang said there might be markets for both buying and sharing. But to accommodate the scooters and other micro-mobility options, cities need better infrastructure, he said, such as enough bike lanes, which are ideal for [scooter](#) riders who might feel unsafe riding with cars that go 25 to 40 miles per hour on main roads but would endanger pedestrians on sidewalks.

Cities are adapting fast though, Zarif argued. "It's getting there. I mean, think of it as when the first car got in the road over a hundred years ago," he said. "The roads weren't built for the cars, but eventually they

started building the right infrastructure."

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