The T3 is a tricycle built for grown-ups, and it is not for play.

Weighing 150 pounds, it has an aluminum frame and sits on three small but durable bicycle tires with a heavy-duty suspension system in front — one meant for all-terrain vehicles — which helps to navigate the city’s innumerable potholes. It can haul up to three times its weight, nearly a quarter-ton of cargo. To go uphill, a single click on the handlebar unleashes a power-boost from an electric-hub in the rear wheel.

The T3 — the “T” stands for “trike,” — is the latest prototype of an urban delivery vehicle from Upcycles, a Brooklyn start-up founded in 2017. Seeking to create a greener and more nimble alternative to trucks for delivering everything from groceries to office supplies, the company built two earlier prototypes. Its third incarnation, T3, which is considered a bicycle under city law, can travel on and fit within the city’s growing network of bike lanes and park on the sidewalk rather than -park in the street.
Upcycles most recently attracted the attention and support of Urban-X, a Brooklyn-based incubator program for city-focused start-ups, created by the Mini car company, which gave them $60,000. However, Upcycle's initial funding of $600,000 came from one of its founders, the philanthropist Joshua P. Rechnitz, 53.

The two earlier versions were both made from steel and were far heavier — requiring more effort to pedal, especially uphill, while T3 was designed from the start to be lighter and more easily and cheaply reproduced. Components of the trike include an electric hub motor for the rear wheel, a chain-drive system, suspension system and on-board computer.

“In the next year we are going from a prototype toward production vehicles, building and producing small batches from our shop — it will be about getting them into the hands of our test users,” said Nick Wong, another Upcycles founder.

Mr. Wong noted that getting a small fleet of the trikes on the street and putting them to work would help grow awareness. With so many New Yorkers are always on the street, this should make for easy marketing, not only the bemused citizenry (that’s normal every time they take a prototype out) but also delivery people and executives — potential customers, in other words.

Because it is not a fully electric vehicle, T3 is still legally classified as a bicycle and can be parked in and go places trucks cannot. Its dimensions allow it to fit through standard commercial doorframes for deliveries and between anti-terrorism bollards that have been placed on dedicated bike paths.
Its straight lines and unpainted aluminum frame give the impression that T3 has just rolled off a clean, modern assembly line and not out of an ancient brick factory space in Greenpoint, shared by many other manufacturing companies and start-ups.

While New York seems ripe for such vehicles, things are much further along in Europe. According to Alison Conway, an associate professor in the Department of Civil Engineering at The City College of New York, city planners in the United States have a lot of catching up to do. She is the author of a 2014 report called “Freight Tricycle Operations in New York City.”

The report mentions that several European cities have introduced restrictions on truck freight deliveries in downtown areas. That has in turn helped foster interest in all sorts of human-powered “cargo cycles,” and many more companies designing and manufacturing them in Europe than are, currently, in the United States. The spectrum ranges from more personal types of heavy-duty two-wheel bicycles to different models of trikes and even four-wheeled quads.

“My academic interest has been focused in urban goods movement — the way goods move within cities — and over the last decade there have been massive changes to this,” Ms. Conway said, referring especially to changes wrought by e-commerce. In simplest terms, she said, dense urban environments like New York City simply were not designed to have trucks deliver everything to individuals the way services like Amazon do. Historically, cities have evolved with stores, where individuals congregated to buy things.

“Cargo bikes present an interesting way to keep goods moving in this new way of doing commerce,” she said, adding that another major benefit of “cargo
cycles” is that the lifetime costs associated with them are going to be less than a truck.

And some big delivery players are interested. For example, U.P.S. has been testing other trike designs in the United States with pilot projects currently underway in both Pittsburgh and Portland, Ore.

“To some extent we are seeing a return to the way things used to be done and are continuing to be done now in the developing world,” Ms. Conway said. “After all, we’ve had bike couriers forever.”