

Curbed: Christopher Bonanos

The Subway Map Has Come Alive

A digital
update resolves
a five-decade
design battle.

THE DATE WAS APRIL 20, 1978. The scene: the Great Hall of the Cooper Union for the Advancement of Science and Art. On the stage sat the Italian modernist Massimo Vignelli and the cartographer John Tauranac, combatants in the Great Subway Map Debate. Six years earlier, Vignelli's firm had reimagined the New York subway map as a rainbowlike diagram. Tauranac was the head of a committee that had engaged Michael Hertz Associates to re-redraw it. Vignelli's diagram was a joy to look at and was nearly useless as an above-ground navigation tool; Hertz and Tauranac's map got you around town pretty well but inspired little delight. By the end of the night, the aesthetes sensed they were going to lose, and indeed Hertz's practical problem-solving work replaced Vignelli's the following year and, with modest updates, is still the map posted in every train. Jonathan Barnett, then a City College professor, summed up the evening by asking, "Why can't we have both maps?"

And now, perhaps we finally do.

On October 20, the MTA unveiled its new digital map, the first one that uses the agency's own data streams to update in real time. It supersedes the blizzard of paper service-change announcements that are taped all over your subway station's entrance. It's so thoroughly up-to-the-moment that you can watch individual trains move around the system on your phone. Pinch your fingers on the screen, and you can zoom out to see your whole line or borough, as the lines resolve into single strands. Zoom back in to see multiple routes in each tunnel springing out, widening into parallel bands—making visible individual service changes, closures and openings, and reroutings. Click on a station, and you can find out whether the elevators and escalators are working. (At 34th Street–11th

1958: The city's very first official full-system map, designed by George Salomon in a mid-century institutional palette. Not a bad start.

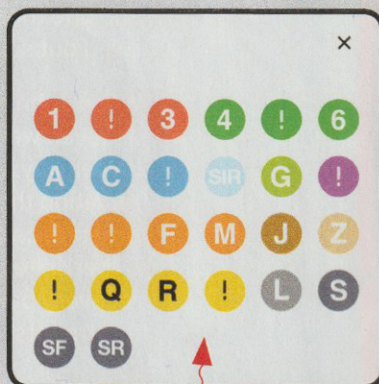
1972: Vignelli's argument-starter. Great for getting you from station to station; hopeless at giving you a sense of where you are when you exit the subway; unbeatable as a poster.

1979: The re-revision, by Michael Hertz Associates with John Tauranac: Neither a superb diagram nor a superb street map, but if you're going to be carrying only one guide in your pocket, it splits the difference just well enough.

Manhattan

Queens

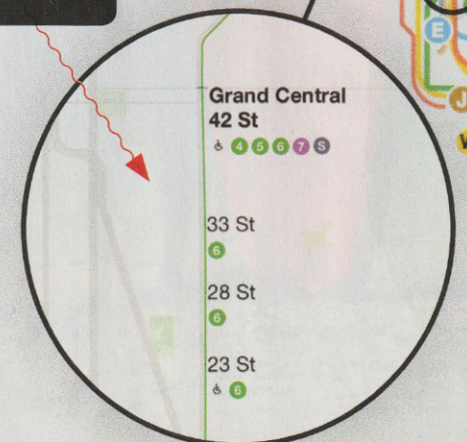
The caterpillar-like **moving trains** were a late addition to the project. They are, to be honest, not quite as precisely located as they might be, particularly on the lettered train lines. (Given our premodern signaling systems, Meyer says, "it's not an exact science.") But, Memoria notes, the little trains perform another visual function: **They remind users, constantly, that it's a live map.**



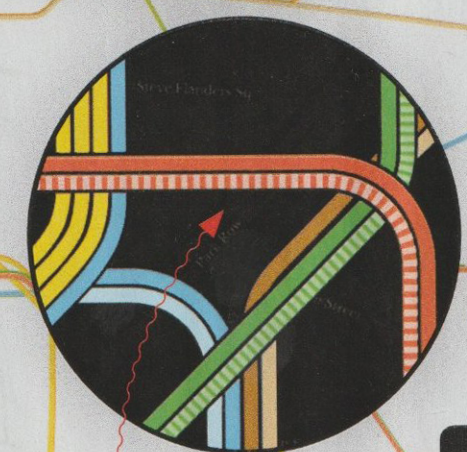
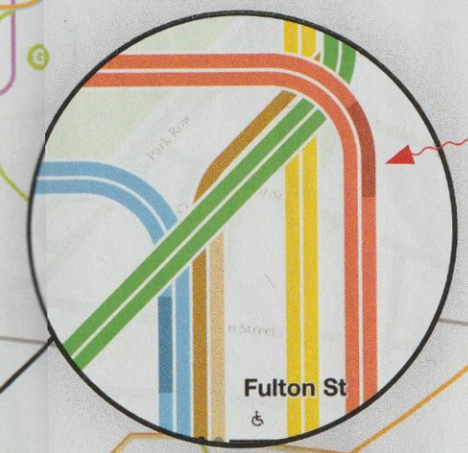
When you zoom all the way out, you see (as on Hertz's map) the **slimmed-down lines in relative proximity to real-world locations**, without the angular oversimplifications of Vignelli's diagram.

In the corner of the screen, a pop-up panel indicates lines that have service interruptions with **exclamation points**. Touch any one, and the **corresponding line pops out in color**, along with text about its status.

So far, it loads **only in your mobile browser**. The next order of business, the MTA has said, is for it to be integrated into MYmta, the agency's all-in-one app that was introduced in 2018.



When you zoom in close, you see the **parallel stranded routes** of Vignelli's diagram. The variegated lines indicate a service change—specifically, a train running only in one direction. The background turns dark after 9 p.m., reminding you that you're looking at the night schedule.



What's next? The buses? **"I'd love to do the bus maps,"** says Meyer. That one's harder though: **"It's beyond spaghetti!"** It's hard to reference visually because of how many buses there are and how the lines interact.

Avenue, as of press time, they are 16 for 20.) Up close, it draws on the best parts of Vignelli's diagram—the distinctions among its parallel stranded routes and the swoopy aesthetics—and the pulled-back view echoes the Hertz map's best features, its graspable consolidation of multiple lines into single ones and its representation of the physical world. In this dire year for New York City and its transit system, when many are still afraid to ride the subway as they always did, this digital launch is a rare moment of things looking up. "What they've managed to do," says Pentagram's Michael Bierut, the design-world eminence who started his career working for Vignelli himself, "is legitimately revolutionary."

"They" are a digital design firm, Work & Co., that began digging into the problem about 18 months ago at the behest of Sarah Meyer, New York City Transit's chief customer officer. The project got started "just after I had a meeting to review complaints that people couldn't understand our service changes," says Meyer. "I was really new to the organization, and I also couldn't understand the service changes! And I said, 'I need a map.'"

It was less easy than it sounds. Putting a straightforward adaptation of the Hertz map online was not going to work: For starters, it uses one band of color to indicate several train lines that share a track (the 4/5/6, for example, occupies a single green stripe), and if just one of those lines is rerouted, a familiar commuting headache, it can't be singled out. Service-change data were only beginning to become available in a way that could easily be flowed into a graphic. This project followed the reengineering of that information stream that made its debut in the MYmta app, which was introduced in 2018. Midway through all of this product development, the MTA got a new interim chief—Sarah Feinberg, replacing the beloved Andy Byford—and she immediately got clobbered with the immense challenge of COVID-19 and the attendant budget crisis. Incredibly, Work & Co. did the whole thing pro bono.

Felipe Memoria, the designer who led the project there, explains that the small screen turned out to be a blessing rather than a constraint. "We had this realization—kind of a hypothesis that eventually proved right—that if you have a smaller canvas, and you have the geography in the background, you can do the geometry on top of it." When you zoom out, the lines have to be thin, so you can't show any detail—but you also don't need that detail for street navigation, since that's the view where you're just looking at train routes, not landmarks. You only need the fine topography when you're close in. "So when you realize that, you're like, *Oh my God, I think we got it!*"