You wouldn’t know it to stand there, but blood flows beneath the streets of Oakland. Human blood. And lots of it.

After three years of renovation and construction, in the fall of 2013, UPMC opened its nine-story Clinical Labs Building at the corner of Fifth Avenue and McKee Place. You might have noticed this if you happened to be in Oakland recently; what you probably didn’t notice is the building’s extensive subterranean pneumatic tube system. This pathology underground allows for patient samples—blood, urine, tissue, and more—to be whisked away for testing. Around 5,000 canisters zip beneath the streets each weekday, some 33,000 per week. Each canister, or “bullet,” is about six inches long and full of padding, the better to protect the samples within.

“The bullet looks exactly like what you’d see in a bank,” says Stacey Armstrong, vice president of operations at UPMC Passavant and service line owner for UPMC Presbyterian.

All of the network’s 118 deposit stations are electronic. So when a nurse at Magee-Womens Hospital of UPMC draws blood for a prenatal workup, he need only type in the desired destination’s station number and send the canister on its way. The bullet then snakes to the lab for testing at 20 feet per second—far faster than a human courier could hope to travel.

Armstrong explains that each facility actually already had its own internal pneumatic tube system. But after adding 20,000 feet of tubing (there are about 8 miles’ worth in all) and connecting all of UPMC’s facilities across Oakland, efficiency is through the roof.

“From a patient care perspective,” says Armstrong, “you’re going to have your nurses spending more time with their patients as opposed to hunting down couriers or worrying about keeping track of lab specimens.”

“It’s a great development,” says George Michalopoulos, MD/PhD chair of pathology and Maud L. Menten Professor of Experimental Pathology at the University of Pittsburgh. “You cannot put all the potential expertise in every hospital—there aren’t enough pathologists in the country to do that,” he says. “Having a centralized laboratory allows for the complicated samples to be concentrated where the experts are.”

So try not to wince the next time you sit down for a blood draw—a small part of you may be about to go on a grand adventure. —Jason Bittel

Take a ride in the tubes: bit.ly/bbyfJBpm