

## ROCHESTER TEENS MAP THEIR FUTURE

### Scholars

**“You could go flip burgers or work at Wegmans, and there’s nothing wrong with that. But is it really teaching you something about a career you want to go into?”**

### THOMAS CUYLER

#### SCHOOL WITHOUT WALLS 12TH-GRADER

Students are using geospatial mapping technology to assess neighborhoods’ problems, offer solutions

### JUSTIN MURPHY @CITIZENMURPHY

Thomas Cuyler walks along the streets of the Beechwood neighborhood, where he lives, and sees the same houses and storefronts and people and cars as everyone else. He knows, though, that what meets the eye is only a partial picture.

There’s data behind it all. And just as Cuyler can use sensory information to decide where to walk, he knows how to assemble that immense amount of underlying data to help make important decisions for the neighborhood or the city.

Cuyler, a 12th-grader at School Without Walls, is the co-founder and driving force behind GIS Scholars, a group of technologically savvy Rochester students who are using geospatial mapping technology

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JAMIE GERMANO/@JGERMANO1/STAFF PHOTOGRAPHER School Without Walls senior Thomas Cuyler, left, with recent graduate Garrison Shelton, during a meeting about GIS mapping technology.

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to assess the biggest problems facing some city neighborhoods and propose solutions.

GIS, or geographic information science, is a tool at the intersection of geography and statistical analysis. For instance, a smartphone uses GIS technology to list and map out nearby gas stations.

Similarly, the group is developing an interactive map that includes specific, street-level information on crime, housing conditions, public transportation routes and the locations of schools and black-owned businesses.

Such a map can provide robust answers to important questions. How does drug activity correlate with run-down housing? How easily can residents get to locally owned businesses by public transportation, and what effect would adding or removing bus stops have? What sort of conditions are children walking through on their way to school?

Cuyler first learned the technology at age 14 at a Freedom School summer program. His career goal is to run his own business, and he quickly saw how he could use his skills to earn money — and to hire other teenagers as well.

In January 2014, the group received \$50,000 in grant funding from the city to hire students to learn GIS and work on the city map of crime and housing conditions. More recently, it was awarded a sub-contract to do work on high-impact corner stores for the Finger Lakes Health Systems Agency.

“You could go flip burgers or work at Wegmans, and there’s nothing wrong with that,” Cuyler said. “But is it really teaching you something about a career you want to go into?”

Cuyler and a small cadre of interested classmates do much of their work in the afternoons at School Without Walls. At a recent meeting, Cuyler and fellow GIS wizard Garrison Shelton navigated their way through a flurry of pop-up windows, data fields, tabs and sub-tabs.

They answered questions of their less experienced peers and massaged their own data into shape, watching dots populate maps of all different scales.

“Sometimes when youth come in, we’re automatically underestimated,” Shelton said. “I mean, look at me. I’m black. People already think I’m going to be a gang-banger. ... But then they see we’re knowledgeable about geospatial technology, and it’s like: ‘Whoa. They’re serious.’ ” The group has a partnership with Monroe Community College that includes office space, the use of equipment and discounted college courses for the high school students. The college hopes to provide a more structured pathway for teenagers looking to make a career in GIS. “A lot of the time, these kids just end up floating because there’s nowhere to go next with their skills,” said Jonathon Little, an MCC geography professor who works with GIS Scholars. “This gives them a foot in the door.” The technology also presents serious job prospects. Joseph Becker, an adviser to the group, pointed out the city of Rochester already employs dozens of analysts to create a variety of maps, and it is not alone. “There are actual positions out there that these kids can aspire to,” he said. In the meantime, as they continue through higher education and the job market, they’ll have a better map than most to navigate by.

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