COLUMBIA MISSOURIAN

Firm uses census, school district data to redraw attendance boundaries

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This content requires JavaScript and Adobe Flash version 9 or later. Please ensure that JavaScript is enabled in your browser. The latest version of Flash can be downloaded from [Adobe's website](#). By 2014, the Columbia School Board hopes to have equal enrollment among Columbia's three high schools. Roll over the map to see hoped-for enrollment totals at each school. ¦ Stacey Schutzman

COLUMBIA — Doris Phifer has seen her fair share of first days in Columbia Public Schools. She watched her great-grandchild start kindergarten this year. Her children and grandchildren also went to school in the district.

Despite the many upcoming changes in the district, Phifer said she isn't worried about how the schools' boundary lines will be redrawn.

"I think they are working hard making a system that's good for children," Phifer said. "It looks like they are trying to get parents involved, and with involvement of parents they'll probably come up with a pretty good solution."

Redrawing Columbia Public Schools' attendance areas has been on the district's radar since 2006, when it recognized the need for a third major high school.

The new boundaries will account for the addition of Muriel Williams Battle High School, the movement of ninth-graders into high school buildings and the formation of intermediate schools serving grades six to eight.

Elementary school boundaries will not change.

The district is looking to reduce the number of building transitions for students and to make each school population representative of the community's diversity, district spokeswoman [Michelle Baumstark said in a previous Missourian article.](#)

Using census data gives a ballpark estimate of district demographics when redrawing school district boundaries. But with about 17,000 students, more specific data sets can help the district hit a grand slam in accuracy.

At least that's what Rob Schwarz, principal planner and owner of RSP and Associates, said.

[According to American Community Survey data from the U.S. Census Bureau](#) for Columbia, the median family income in 2009 was $65,111, with 10.7 percent of families living below the poverty level.

The data also gives a breakdown of the city by ethnicity: 81.5 percent of residents self-identify as white, 9.2 percent as black or African-American, 4.1 percent as Asian and 3.2 percent as Hispanic or Latino.

The survey also breaks down Columbia's population by age; children ages 5 to 19 make up 20.5 percent of the population.

Although this 2010 census data is now available, the district is using additional, more specific means to move forward.

The district hired Schwarz's firm in 2010 to collect data for the redistricting. Superintendent Chris Belcher said he chose the firm because he worked with it before and because it is known for its accuracy in other Missouri school districts.

The firm uses data from Columbia, Boone County, hospitals and real estate agents to compile a comprehensive look at the district's composition. It talks to city planners about building development and property values to get an idea of how the city is using and developing its land.

The firm uses property value data from the Boone County assessor, and data about birth rates and average number of children being born each year from hospitals. It can also use addresses from birth certificates to find out where these families live. The real estate agents give the firm information about where homes are selling and what sort of homes are bought and sold.

The firm also uses census data to get a broad idea of trends and general characteristics of the population.

"We use the census for the benchmarking and some of the greater things that are happening in the community," Schwarz said, "but because we are looking at some other data sets, we are able to drill down and use other statistical strategies or modeling to get at things that are not as completely told by the census data."

The district is combining the firm's data in conjunction with its own to start making plans for redistricting. Part of the firm's data comes from the district's Instructional and Information Technology Services department. Manager of Data Service Chris Diggs said the district always collects data, but they are compiled and delivered to the state six times per year.

The ethnic breakdown in the district, however, differs from the city as a whole, according to the [Missouri Department of Elementary and Secondary Education's website](#).

In the district, 66.2 percent of students are white, 23.4 percent are black or African-American, 5.7 percent are Asian and 4.1 percent are Hispanic or Latino.

Almost 40 percent of students in the district qualify for free or discounted lunch, a percentage the district uses to measure poverty. Census data breaks down ethnicity and income for the whole city, but the firm's data focuses more on families with students in the district.

Terry Smith, father of a fifth-grader at Mill Creek Elementary School, was curious about whether data about traffic accidents would be included because teenage drivers' safety was a priority of parents attending [community forums this month](#).

"I think it would be interesting to find out from the Columbia Police Department the accident-prone streets in our city," Smith said. "They should have that kind of data. Young drivers traveling across town to get to school would likely increase the number of accidents in these areas."

Once the firm collects its data, it puts it into a model that produces planning areas, which show existing district boundaries. Schwarz said the district is divided into 1,052 of these geographic areas.

"We have all sorts of data maps that we know where every kid in our district lives," Superintendent Chris Belcher said. "In each planning area we can get full demographics and projections of growth."

Schwarz said the problem with census data is there isn't a way to verify its accuracy. He said his firm's data is much more reliable.

"When we say there is going to be X number of kids in a facility, our accuracy rate is going to be 97 percent or greater in that actually happening," Schwarz said. "That's what makes our projections so accurate, is we are looking at things at such a small level that we are just bound to hit that accuracy right."

The firm then looks at whether the land in each area is used for residency or business. From these areas, the firm can identify whether its population data matches the census. Its projections for the city's growth are based on what it finds in each planning area.

In forums like the one Smith attended at Gentry Middle School, the district has been collecting feedback on what the community deems most important in redistricting.

Community forum presentations shown to the public in March included data about poverty in the student population, which is represented by free and discounted lunch percentages in each school.

Presentations also included enrollment projections for all three high schools after the boundaries are redrawn.

Some members of the community have emphasized the need to balance the levels of poverty in each school when the boundaries are drawn.

"I understand that the segregated nature of Columbia could result in schools with skewed racial or socioeconomic demographics," Columbia resident Esther Stroh said in an e-mail. "But if we are vigilant about making all school programs equal, the benefit of having neighborhood schools could balance out some of the disadvantages of unbalanced demographics."

Because of community feedback, the Secondary Enrollment Planning Committee, charged with redrawing the boundaries, has made balancing demographics more of a priority. It will also try to keep travel distance and time to a minimum. Some parents said they worry about the rising cost of gas, but Phifer said she thinks busing is preferable.

"Our children use the public buses. I know sometimes kids didn't think that was a good idea, but it's wonderful after school," Phifer said. "For some it would work, especially if there is a campaign to make public transportation a good thing."

The committee will start to create possible boundary scenarios this summer.

"You've got to start somewhere," Belcher said. "So someone's going to take a marker and say, 'Well, here's where I think would be a good split.'"

After the committee creates its three scenarios, it will ask the firm to run the possible boundaries through its model to predict the characteristics of the populations in each area.

In September, the committee will present these scenarios to the community for more feedback. The committee then will modify a scenario to present to the school board in December.

Committee Chair Don Ludwig said students should know the schools they will be attending by next spring.

"It feels so out of our hands, but I'm glad they're getting our opinion on it," Columbia resident Anna Zacherl said at the Gentry forum. "I hope they use it."