Oh SNAP! Geospatial analysis for Summer Meal Planning

Problem:

Awareness of meal programs has not caught up to the speed of technology – parents need to know when and where they can access free meal programs, and locations need to be strategically chosen based on current community needs.

Who will benefit?

Researchers, public health planners, healthcare providers, parents, and, ultimately, children!

With healthcare provider reimbursements incentivized toward keeping local populations healthy, it is to everyone's advantage to engage communities and actively promote healthy lifestyles. Collaborative efforts between public and private health entities can work to this end throughout the school year to educate children and encourage families to make healthy lifestyle choices through a variety of programs, but a mechanism for distribution of food, information, and support is needed during summer months when school is out. The USDA organizes a Summer Food Service Program to provide free meals to families. Children do not need to fill out forms or apply to participate; simply know the location, its service times, and show up. Many sites offer educational and recreational activities that kids of all ages can participate in so they can eat, hang out with friends and take part in activities offered.

The program started in 1969, serving 2.2 million meals at 1,200 sites and has grown to 160.5 million meals served at 45,200 sites today (http://www.fns.usda.gov/sites/default/files/pd/sfsummar.pdf). In Georgia specifically, 4.6 million meals were served at 2,143 sites in FY2014, and there are 1,646 sites of service listed for 2015. The drop in site listing does not correlate with utilization patterns, as the state saw a 137% increase in program utilization from 2013 to 2014. This requires further investigation, but this tool was built to be current with today's provision of service as an avenue for further community engagement.

Use Cases

This tool is intended to be used as a launching point for efforts to increase community health and effectively address nutritional disparities by visualizing where resources are currently distributed and where they are needed. Additional data sources/visualization layers can be added for specific use cases.

Future iterations can overlay additional data points/sources to identify current and prospective distribution channels for community engagement, health literacy initiatives, and further service outlets. The original idea was to use maps as a way to enhance planning as well as utilization, overlaying traffic and transportation options for user convenience.

Some example census data points that could be incorporated:

- income data
- family make-up statistics
- educational make-up

Additional Summer Meal data (for community use/access):

- transportation routes
- meal types available
- meal times available

Some example sources include:

- obesity metrics from Community Health Initiatives (at the county level) to identify which locales need additional literacy efforts
    - We did not include because fill rate was 90/159 Georgia Counties
- behavioral health analysis from Physician Compare to identify which areas have a higher need of adolescent psychiatry services
- additional transportation layers to determine best routes and obstacles to obtaining the free nutrition assistance
- countyhealthrankings.org for community health intiatives
- Food Environment Atlas for store/restaurant proximity, food prices, food and nutrition assistance programs, and community characteristics

Community campaigns to increase health:

Engage participants socially to get active after their meal, record activity levels or other metrics during the week, and think/talk about motivations behind a healthy lifestyle ("I want to be X when I grow up, and I need to be healthy to do that ...")

Although time did not allow for successful completion of our prototype, we wanted to submit our work for consideration for future development, as it has the potential to easily “go viral” through word of mouth, and be a touchpoint for organizations seeking to provide services to communities with health and income disparities. Plugging in data points from the Census API was probably the easiest part of this task – easy to search for data points, read the clearly worded documentation, and pull it into the application. Maps just turned out to be a higher level of difficulty that went beyond the amount of time we had to commit.