

Summary of Current Data Analysis and Mapping Effort

presented 8/21/09 by Bill Brown

1. **Addresses for people who were sent a summons from Jan 2005 - June 2009.** There are more than 27,000 records, averaging about 6,000 per year. From this, we selected all addresses from 2008 (6,235), eliminated duplicate records since it appeared as though people who got deferrals were listed multiple times (leaving 5,043), and geo-coded these addresses to point locations on a map of Champaign county. Addresses were summed within Census 2000 block groups and maps were produced showing the percentage of the population who were summonsed in 2008. We also looked at similar maps using census numbers for only citizens and only those 18 or older, to better reflect the eligible population. As shown in Fig. 1, the campus area is most underrepresented as a percentage of population, and additional areas underrepresented are also areas where there is a higher percentage of African-American residents. We also looked at maps by census tract, rather than block group. Tracts are much bigger units, and although the pattern on campus was still evident, other patterns were less visible at this scale.

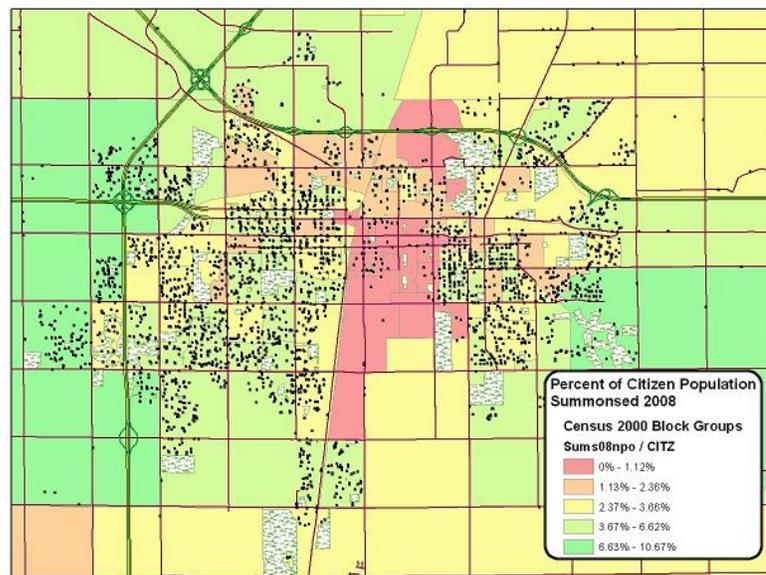


Figure 1. Map of Champaign-Urbana overlaid with point addresses for those receiving a summons in 2008. Census block group colors show under-representation of citizen population to be highest on campus, and also high in north Champaign and pockets of Urbana. Green areas showing apparent over-representation on city outskirts are partly an artifact of using nearly 10-year-old Census data which does not count the increased population in new subdivisions.

2. **Addresses for people who did not respond to questionnaires sent.** The dates covered by this dataset begin in 2006, but there are less than 300 for 2006 and 2007 combined, 2,882 for 2008 and 2,812 for the first half of 2009. There are many duplicate addresses, and some that appear to have been sent a questionnaire every day for a week straight. Until we discover the meaning of the duplicates (Error in our dataset? Did they respond once, and others were ignored? Several members in household were sent questionnaires?), it would not be useful to map these addresses.

We also examined maps created from results of the analysis by Paula Hannaford-Agor. Her analysis was done at the zip code level (even larger than Census tracts), so only general patterns were observable in

the maps. There was some discussion that the high non-response rate to questionnaires (which was statistically significant for Champaign 61820 & 61821 & Rantoul 61866) may actually be counting some that were undeliverable.

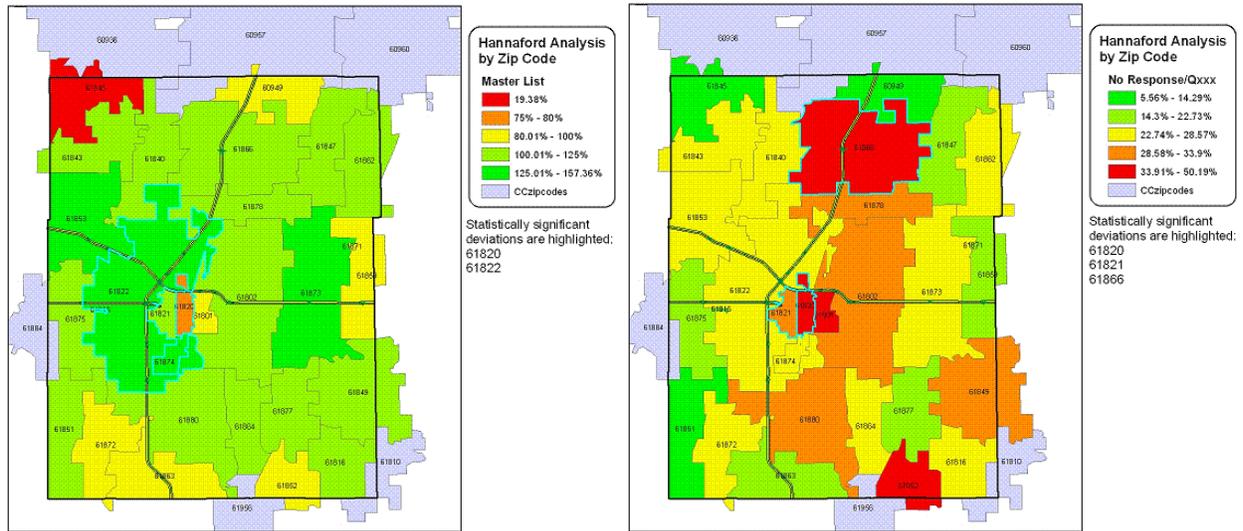


Figure 2 . Maps of Champaign County we created from results of analysis by Paula Hannaford-Agor by zip code. On the left is a map comparing number of addresses in the “Master List” to Census 2000 population data. The apparent under-representation in NW corner of county is due to a Census Bureau error that over-counted an area near Foolsland by more than 1000 people, and bright green areas show greater than 100% due to population growth since the census was taken. On the right is the non-response rate by zip code (using “no response”/questionnaires, so no Census data involved here). Zip codes near the edges of the county are sparsely populated, so there is variation due to low sample rates. Statistically significant deviations are highlighted with a blue border.

Dormitory address observations. While examining duplicate records in the “Summons Sent” database, it was noted that the number of summons sent to UI dormitories was much higher in 2005 than in other years. Although 2004 was a presidential election year and could have resulted in more registered voters in the dorms, we have not seen any increase in numbers for the first half of 2009. Are dorm addresses complete in the database? Could there be deletion of some as duplicate addresses since there are few with residence hall room numbers attached? Could a systematic problem with data preparation resulting in low dorm sampling also be affecting sampling of those living in apartments or other group housing? We should inquire further about the data preparation methods that result in seemingly inconsistent sampling and excessive duplication of addresses, and ask if there is a written protocol.

Residence Hall	Capacity	Address	2005	2006	2007	2008	2009(half)
Allen Hall	620	1005 W Gregory Dr, Urbana	15	4	0	1	0
LAR	548	1005 S Lincoln Ave, Urbana	9	1	1	2	0
Forbes	495	101 E Gregory Dr, Champaign	11	5	1	2	1
Hopkins	495	103 E Gregory Dr, Champaign	6	0	0	2	0
Weston	495	204 E Peabody Dr, Champaign	5	0	0	1	0
Snyder	495	206 E Peabody Dr, Champaign	11	2	0	3	0
Oglesby	639	1005 College Ct, Urbana	8	1	0	2	0
Trelease	629	901 College Ct, Urbana	14	1	0	4	2
Townsend	639	918 W Illinois St, Urbana	7	0	1	0	0
Wardall	561	1012 W Illinois St., Urbana	9	0	1	1	0
Busey/Evans	398	1111 & 1115 W Nevada St, Urbana	10	3	0	2	0
TOTALS	5394		105	17	4	20	3
TOTAL SUMMONS			6831	6166	4821	6235	3196