





#SMARTer Together

June 25th
Community Insights Incite
Community Action



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Beyond Demographics: Data on Social Life and Social Capital

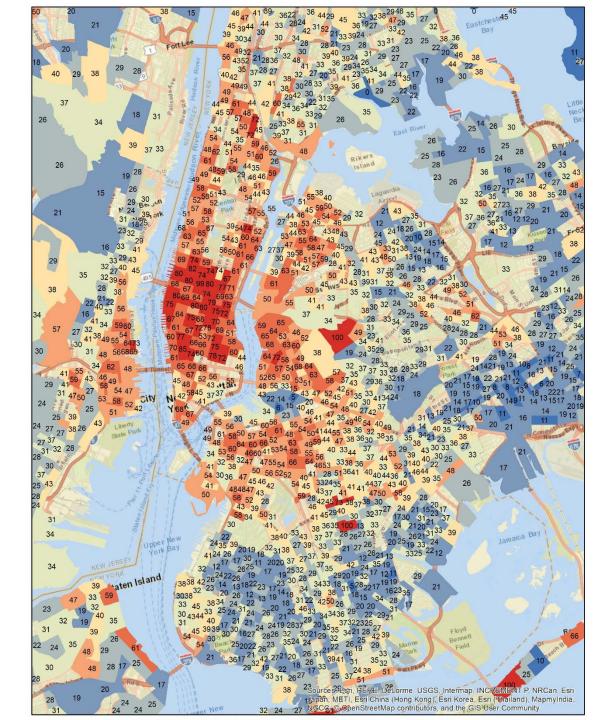
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Problem: Demographic data typically do not tell us about personal relationships.

But this information would help us:

- Describe infrastructure usage; value
- 2) Measure vulnerability
- 3) Addressing loneliness



This former surgeon general says there's a 'loneliness epidemic' and work is partly to blame





Loneliness kills: A new public health crisis (and what we can do about it)

Just In... Scientists confirm black

438 SHARES

panthers spotted near fictional setting of Black Panther' movie BLOG BRIEFING ROOM - 32M 29S AGO

Singer Ryan Adams accused of sexual misconduct by seven women N THE KNOW - 59M 14S AGO

California gov jabs Trump's call to return



BY BILL FRIST AND DONATO TRAMUTO, OPINION CONTRIBUTORS - 07/27/18 09:30 AM EDT



20 COMMENTS

All the lonely people

Loneliness is a serious public-health problem

The lonely are not just sadder; they are unhealthier and die younger. What can be done?



Print edition | International > Sep 1st 2018 | BLACKPOOL, GJØVIK, AND TOKYO









LONDON, says Tony Dennis, a 62-year-old security guard, is a city of "sociable loners". Residents want to get to know each other but have few ways to do so. Tonight, however, is different. Mr Dennis and a few dozen



Img Source: Walmart.com

Methods for Representing Relationships In Geographic Information Systems

Geometry Type	Old: Traditional Features	New: As relationships and connectivity
Lines	Roads, power lines, fences	Dyadic relationships
Points of Interest / Institutions	Schools, restaurants, buildings, etc.	Pols host different kinds of relationships? Some more successful than others.
Networks	Highway or subway networks	Social networks & flows of movement and telecom
Administrative Units (Area)	Population, Race, Income	Report of relationship strength & community, extensibility metrics.
Regions (Area)	Watersheds, regions, catchment areas	Bottom-up 'social regions'
Rasters	Elevation, Temperature	Individual cost surfaces

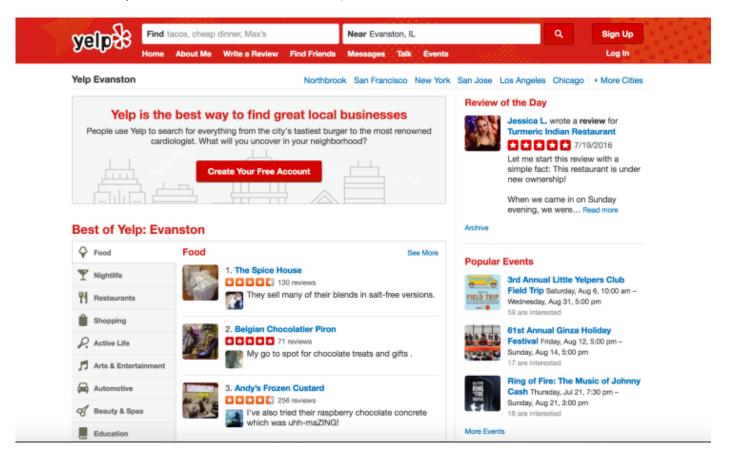
Methods for Representing Relationships In Geographic Information Systems

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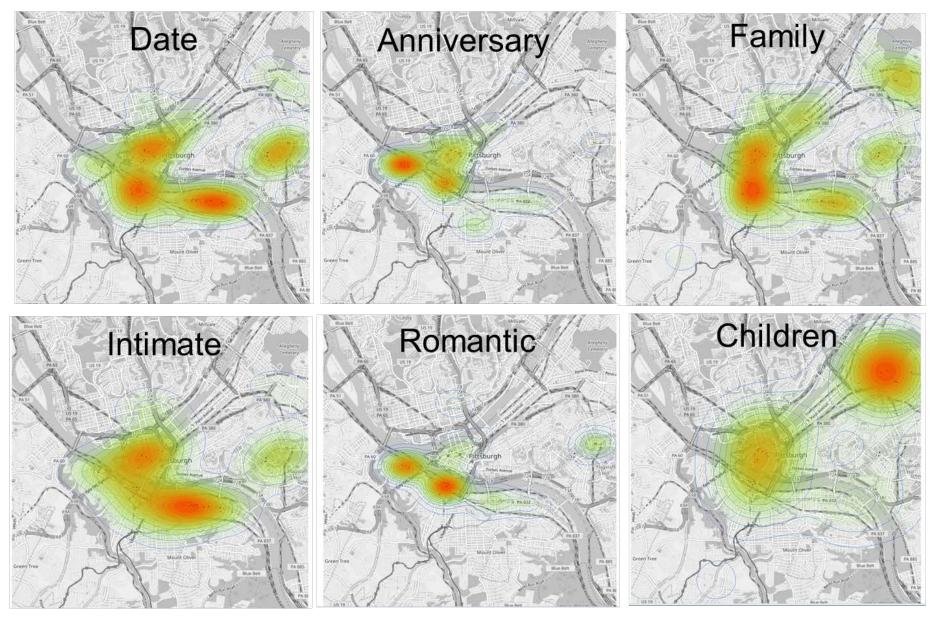
Example study: Yelp Restaurant Reviews

Approach

- -Corpus of 361,839 geolocated reviews and data challenge.
- -LDA text mining to pick out keywords like "boyfriend, girlfriend, date, kids, anniversary, family, husband, wife, etc."
- -Neighborhood hot spots for each keyword.

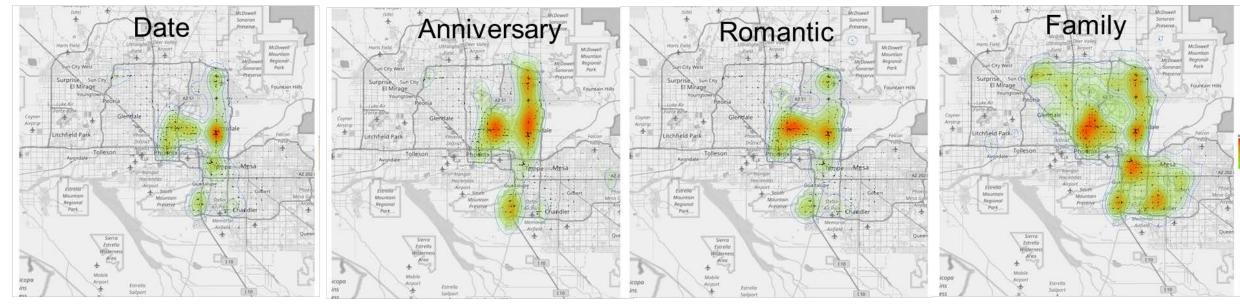


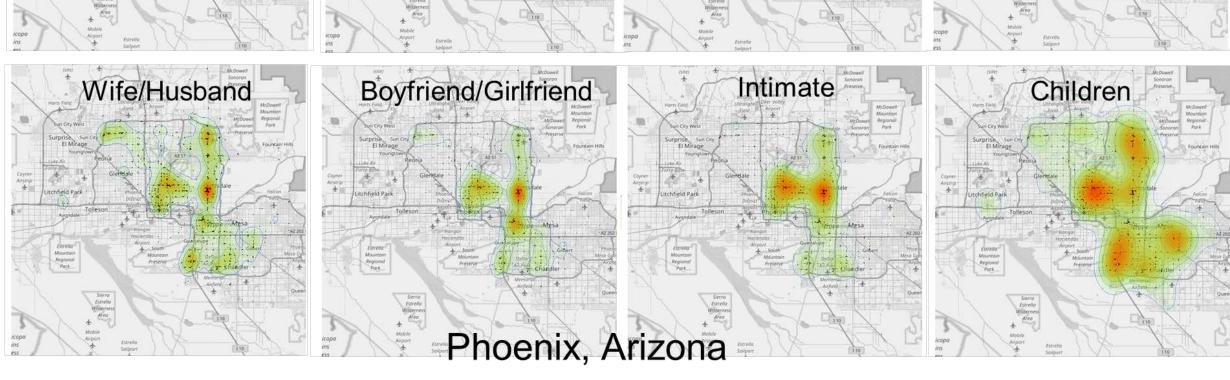
Rahimi, S., Andris, C., & Liu, X. (2017). Using Yelp to Find Romance in the City: A Case of Restaurants in Four Cities. In Proceedings of the 3rd ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics.

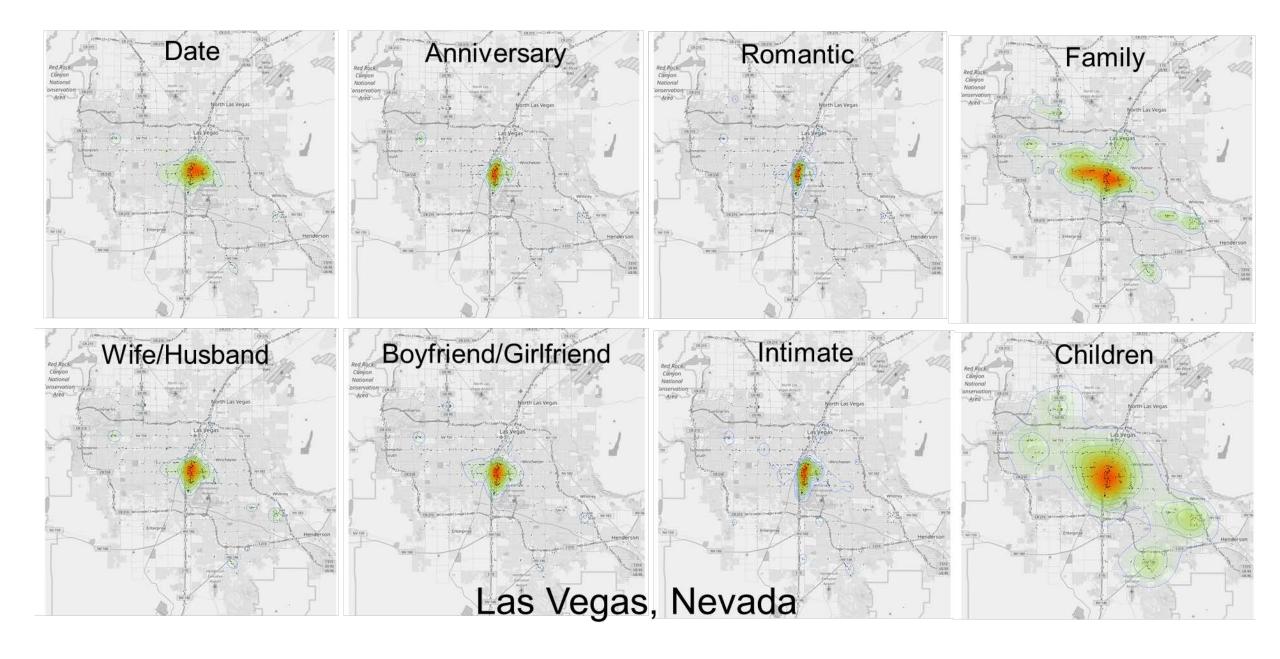


Pittsburgh, PA

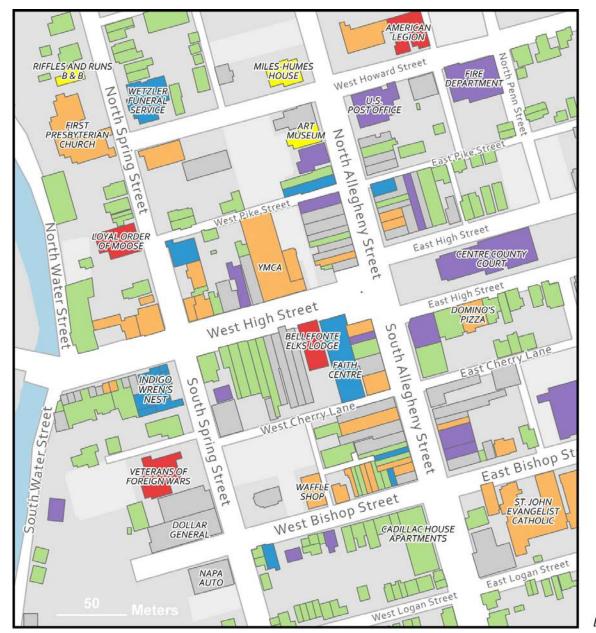
Rahimi, S., Andris, C., & Liu, X. (2017). Using Yelp to Find Romance in the City: A Case of Restaurants in Four Cities. *In Proceedings of the 3rd ACM SIGSPATIAL Workshop on Smart Cities and Urban Analytics*.







Example study: Which POIs support which relationships?





Social Relationship Type



We scraped Twitter and Reddit for examples text with relationships and places.

Table 1: Results from the Twitter pilot study show the frequencies of relationship occurrences at POIs/events.

Category	Friends	Children	Parent l	Romantic	Coworker	r Spouse	Elderly	Teen	Visitor	Elder
	4	-Adult Chi	ld				+Chile	ł		
Zoo	242	320	108	42	17	37	24	6	26	3
Festival	182	36	16	42	44	7	0	4	7	0
Movie Theater	138	52	59	34	6	8	4	8	2	5
Casino	125	14	40	24	10	8	15	5	2	1
Coffee Shop	59	17	28	57	6	8	1	10	0	3
Baseball Stadium	72	60	25	5	5	6	2	1	0	0

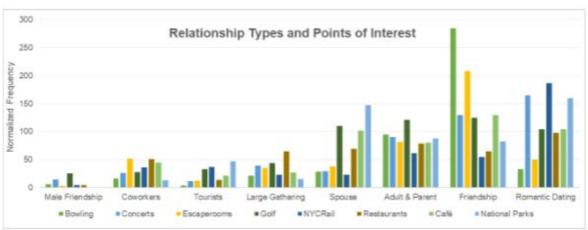


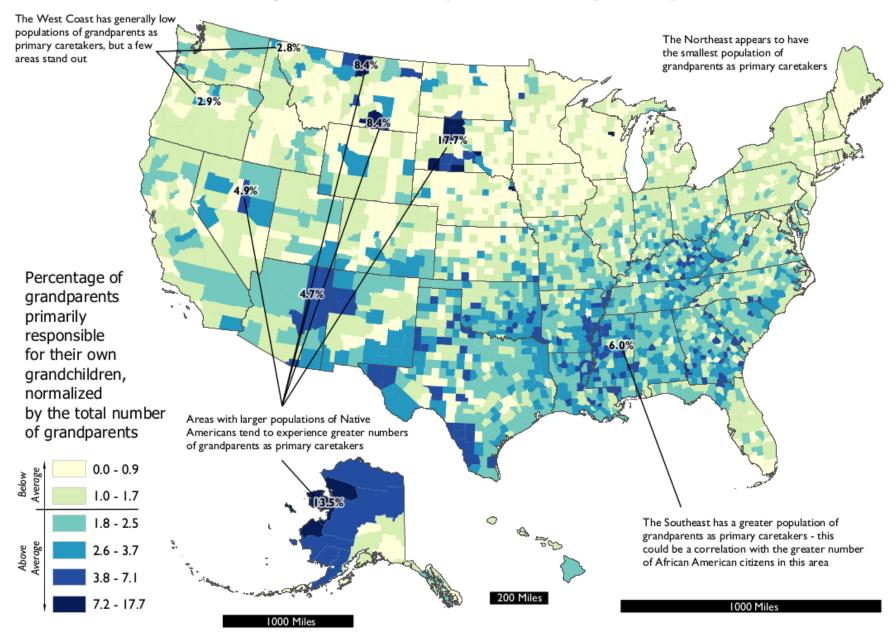
Figure 5: Results from our pilot study using Reddit feeds reveals crime on the subway, as well as the importance (and resurgence) of bowling alleys for friendships, concerts for date nights, and golf courses for older adults and their grown children.

Methods for Representing Relationships In Geographic Information Systems

Geometry Type	Old: Traditional Features	New: As relationships and connectivity
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From "traditional" demographics to social capital indicators

Grandparents as Primary Caretakers, by County

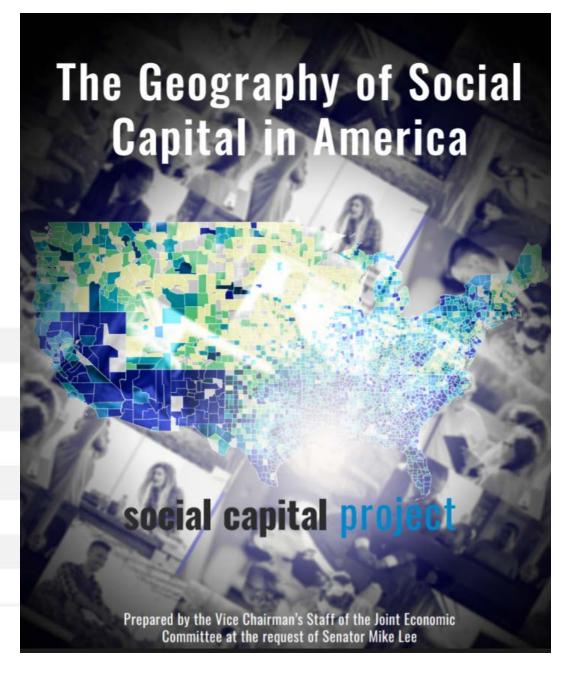


Source: U.S. American Community Survey (2017) Map by Max Glines of the Friendly Cities Lab

Large U.S. Senate Project: Measures demographics, infrastructure availability, civic engagement (voting, volunteering), psychological experiences.

Table A1b. Social Capital Indicators Considered, State Level Only

Indicator	Data Source
Share of adults saying they attend religious services at least once a week	Pew Religious Landscape Study, 2014
Share saying they participate in prayer, scripture study or religious education groups at least 1x/week	Pew Religious Landscape Study, 2014
Share of children whose parents reported they experienced divorce	National Survey of Children's Health, 2016
Share whose parents reported they experienced the death of a parent	National Survey of Children's Health, 2016
Share whose parents reported they experienced parental incarceration	National Survey of Children's Health, 2016
Share whose parents reported they experienced domestic violence	National Survey of Children's Health, 2016
Share whose parents reported they lived with someone with a mental health issue	National Survey of Children's Health, 2016
Share whose parents reported they lived with alcohol or drug abuser	National Survey of Children's Health, 2016
Share whose parents reported they witnessed neighborhood violence	National Survey of Children's Health, 2016



Appendi

Table A1a. Social Capital Indicators Considered, State and County Level

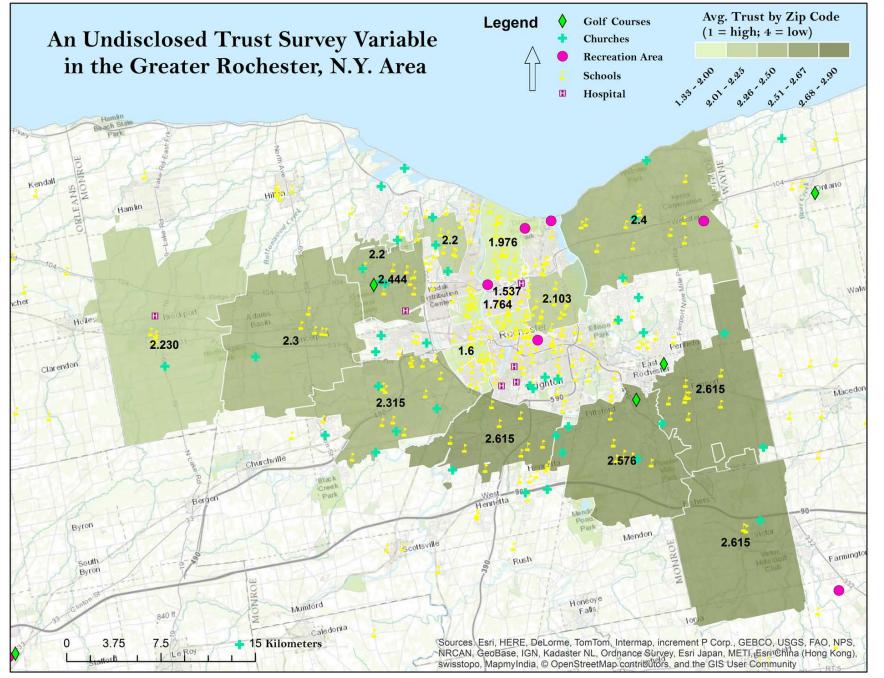
Indicator	Data Source	Notes
Share of births in past year to women who were unmarried	American Community Survey, 2012-2016, 5-year estimates; 2007-2011, 5-year estimates for 27 counties in 8 states	American FactFinder Table S1301
Unmarried women 15-50 with birth in past year per 1,000 unmarried women 15-50	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Table DP02
Share of households with just one person	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Table S2501
Share of women ages 35-44 who are currently married (and not separated)	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Table B12002
Share of women ages 45-54 who have never married	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Table B12002
Share of families with children headed by a single parent	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Tables B11003 & B11014
Share of own children living in a single-parent family	American Community Survey, 2012-2016, 5-year estimates	American FactFinder Table B09002
Religious adherents per 1,000	U.S. Religion Census: Religious Congregations and Membership Study, 2010, County and State files	data obtained via Association of Religious Data Archives, census conducted 2009-2011
Congregations per 1,000	U.S. Religion Census: Religious Congregations and Membership Study, 2010, County and State files	data obtained via Association of Religious Data Archives, census conducted 2009-2011
Membership organizations per 1,000	County Business Patterns, 2015; ACS population estimates, 7/2015 (2015 vintage)	American FactFinder Tables CB1500A11 & PEPANNRES
Recreation and leisure establishments per 1,000	County Business Patterns, 2015; ACS population estimates, 7/2015 (2015 vintage)	American FactFinder Tables CB1500A11 & PEPANNRES
"Associations" per 1,000 using the Penn State definition	County Business Patterns, 2015; ACS population estimates, 7/2015 (2015 vintage)	American FactFinder Tables CB1500A11 & PEPANNRES
Registered non-religious non-profit organizations per 1,000	IRS, Business Master File, 12/2015; ACS population estimates, 7/2015 (2015 vintage)	via National Center for Charitable Statistics & American FactFinder Table PEPANNRES
Registered non-religious non-profits plus religious congregations per 1,000	Same, plus U.S. Religion Census: Religious Congregations and Membership Study, 2010	same, congregation data obtained via Association of Religious Data Archives
Average (over 2012 and 2016) of votes in the presidential election per citizen age 18+	Election Administration and Voting Survey; ACS, 2012-2016, 5-year estimates	U.S. Election Assistance Commission; counties: EAVS voting combined with American FactFinder Table B05003 estimates of citizens 18+; votes unavailable for Alaska counties, which we assign the statewide voting rate; states: EAC rates based on citizen estimates from 2010 decennial census and ACS
Mail-back response rates for 2010 census	Census Bureau	County estimates via University of Michigan Population Studies Center, Institute for Social Research
Share saying they get the emotional support they need only sometimes, rarely, or never	Behavioral Risk Factor Surveillance System	Counties via County Health Rankings (2014 edition), based on 2005-10 BRFSS data; county samples not necessarily representative; states: from analysis of BFRSS microdata, 2006 & 2010 estimates averaged to get pre- and post-recession estimates

2006 Social Capital Benchmark Survey

2006 Social Capital Community Surv												
National Sample, Weighted Margina	ls (N=247	76)										
		6.1										
Note: in some cases the questions are versioned (i.e., Thus, the significance of differences will vary from que			npie were a	asked the qu	estion).							
					Lii_							
Note: in the race/ethnic breakouts, non-whites are resp	ondents who	provided	race wno v	vere not whit	e non-nispanics	5						
				Education			A				Ethnicity	/Dana
	Total	Male	Female	<=H.S.	Sama callaga	College degree+	Age	35-49	50-64	65+		non-wh
Unweighted number of national respondents:	2741											
Weighted number of national respondents:		1323.63										
NUMBERO RELOWARE REPOENTACES FOR E	A OLL OOL LIN	101 /		111								
LL NUMBERS BELOW ARE PERCENTAGES FOR E.	ACH COLUIV	IIV (except	wnere note	ed that mean	s are provided)							
MPOCCUP 5A1. Your OCCUPATION gives you a se	nse of who y	ou are									F.4. 1.1.	(D
	T			Education	0 "	0 11 1	Age	25.40	E0.04	CF.	Ethnicity	
Not at all formations	Total	Male	Female	<=H.S.		College degree+		35-49	50-64	65+		non-wh
Not at all important	10											
Slightly important				_								
Moderately important	25											
Very important	54											
	100	100	100	100	100	100	100	100	100	100	100	1
MPRESID 5A2. Your PLACE OF RESIDENCE gives	you a sense	of who yo	ou are				_					
	T			Education	0 "	0 11 1 .	Age	25.40	50.04	CF.	Ethnicity	
	Total	Male	Female	<=H.S.		College degree+		35-49	50-64	65+		non-wh
Not at all important	9			_		_						
Slightly important	13											
Moderately important	25 54				25 51							
Very important	100									-		
MPETH 5A3. Your ETHNIC OR RACIAL BACKGROU	JND gives y	ou a sense	of who y	ou are Education			Age				Ethnicity	/Race
	Total	Male	Female	<=H.S.	Some college	College degree+	18-34	35-49	50-64	65+		non-wh
Not at all important	20											
Slightly important	15											
Moderately important	26											
Very important	38											
, ,	100	100	100	100	100	100	100	100	100	100	100	
MRELIG 5A4. Your RELIGION (if any) gives you a s	ense of who	vou are										
		,		Education			Age				Ethnicity	/Race
	Total	Male	Female	<=H.S.	Some college	College degree+	18-34	35-49	50-64	65+		non-wh
Net et ellimentet	13								13	7		
Not at all important												
Not at all important Slightly important	8	3 7	9	9	/	8	9	8	9	4	. 9	
Slightly important Moderately important	22		_				_					

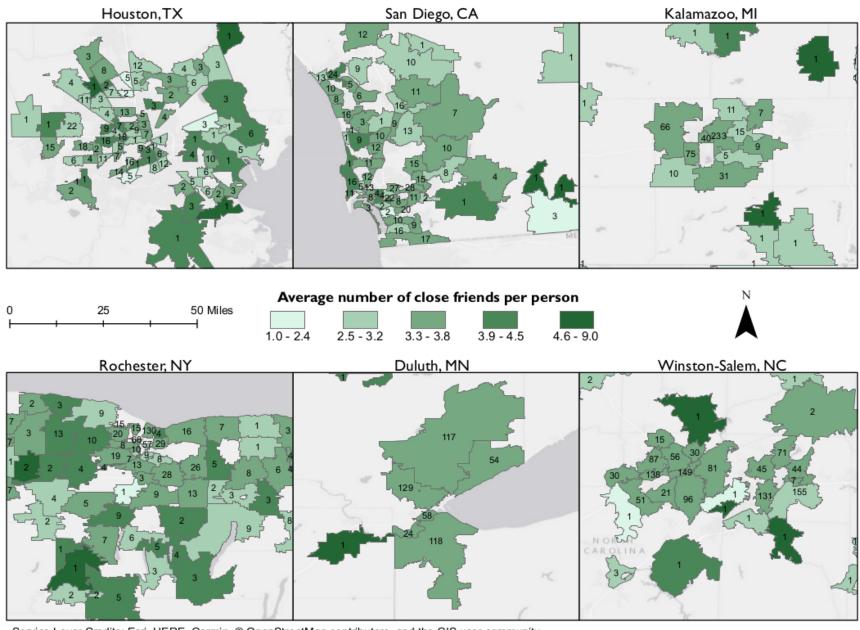
http://www.hks.harvard.edu/programs/saguaro Nearly 30,000 respondents were surveyed in 40 communities across 29 states.





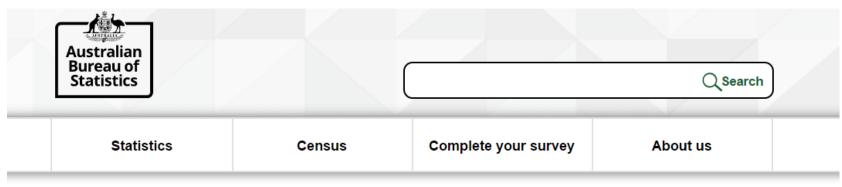
Rahimi, S., Martin, M. J., Obeysekere, E., Hellmann, D., Liu, X., & Andris, C. (2017). A geographic information system-based analysis of social capital data: Landscape factors that correlate with trust. Sustainability, 9(3), 365.

Number of Close Friends by Zip Code



Service Layer Credits: Esri, HERE, Garmin, @ OpenStreetMap contributors, and the GIS user community

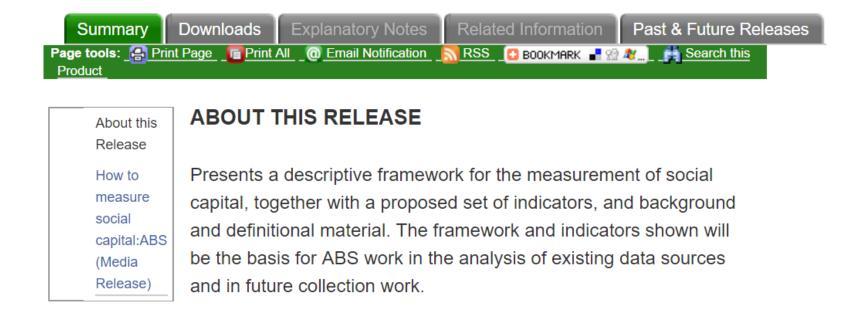
Data Source: Social Capital Benchmark Survey 2006. Map by Max Glines, Friendly Cities Lab



> By Catalogue Number

1378.0 - Information Paper: Measuring Social Capital - An Australian Framework and Indicators, 2004

LATEST ISSUE Released at 11:30 AM (CANBERRA TIME) 11/02/2004



Framewo	ork Elements and Indicators	21
1	Network qualities	26
1.1	Norms	26
1.1.1	Trust and trustworthiness	26 INDICATOR
1.1.2	Reciprocity	The proportion of people who have close relatives or friends living within 30 minutes of
1.1.3	Sense of efficacy	them.
1.1.4	Cooperation	
1.1.5	Acceptance of diversity and inclusiveness	
1.2	Common purpose	
1.2.1	Social participation	13 1. None 2. 1–2
1.2.2	Civic participation	
1.2.3	Community support	ALC: ALC: ALC: ALC: ALC: ALC: ALC: ALC:
1.2.4	Friendship	5. 10 or more
1.2.5	Economic participation	53
2	Network structure	57
2.1	Network size	57 INDICATORS
2.2	Frequency/intensity and mode of communication	The proportion of people who have had face-to-face contact with relatives they do not
2.3	Density and openess	14 live with, at least a few times a week.
2.4	Transience and mobility	76
2.5	Power relationships	The proportion of people who have not had face-to-face contact with relatives they do not live with in the last month.
3	Network transactions	35
3.1	Sharing support	35 DATA ITEM
3.1.1	Physical/financial assistance, emotional support and encouragement $ \dots 8 $	
3.1.2	Integration into the community	
3.1.3	Common action	2. A few times a week 3. A few times a month
3.2	Sharing knowledge, information and introductions	4. Once a month
3.3	Negotiation	5. Not in the last month
3.4	Applying sanctions	01
4	Network types	03
4.1	Bonding	94
4.2	Bridging	
4.3	Linking	https://www.abs.gov.au/AUSSTATS/
4.4	Isolation	abs@.nsf/DetailsPage/1378.02004

Singapore gathers data on social capital. (Geolocation is often private)

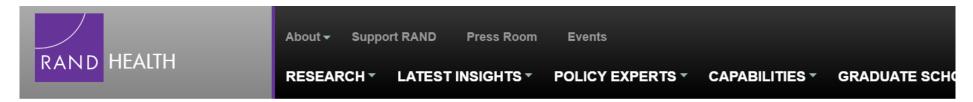
Table 2.13				
Size of Informal	Networks	by	Flat	Туре

	Flat Type							
Network Size (Average Number of Persons)	1-room	2-room	3-room	4-room	5-room	Executive	All	
a. Family members	6	6	7	7	7	8	7	
b. Relatives	12	10	16	17	19	21	17	
c. Friends who are not neighbours								
- Chinese friends	12	10	14	14	17	18	15	
- Malay friends	4	4	5	5	5	5	5	
- Indian friends	2	2	3	3	3	4	3	
- Others	-	-	1	1	1	2	1	
d. Neighbours who are friends	6	6	6	5	5	6	6	
e. Neighbours in general	8	8	10	9	10	11	10	
Overall Number*	49	45	58	60	66	73	61	

^{*} Individual figures for items (a) to (e) may not add up to the overall number. This is because the overall number excludes cases with no response for any of the items in (a) to (e).

HDB: PUBLIC HOUSING IN SINGAPORE: (Household Survey 2008) http://www.hdb.gov.sg/fi10/fi10297p.nsf/ImageView/Survey2008/\$file/Monogram+2+Lores_R1.pdf

U.S. MOS Survey



RAND Health

About

Staff

Contact

Key Topics

Opioids

U.S. Health Policy

Paying for Care

Organizing Care

Quality of Care

Healthy Populations and Communities

Mental Health

Publications

Commentary

Surveys

RAND > RAND Health > Surveys > RAND Medical Outcomes Study >

Social Support Survey

This brief, self-administered Social Support Survey instrument was developed for patients in the Medical Outcomes Study (MOS), a two-year study of patients with chronic conditions. It is easy to administer to chronically ill patients, and the items are short, simple, and easy to understand. It may also be appropriate for use with other populations.

Available Documents

MOS Social Support Survey Instrument (HTML)

View and print the MOS Social Support Survey Instrument.

Scoring Instructions for Social Support Survey Instrument

The scoring instructions include references to many articles that describe the process by which the measures were developed and discuss their validity and reliability.

Emotional/ Informational, Tangible, Affectionate Support, Positive Social Interaction

Social Support Survey Instrument

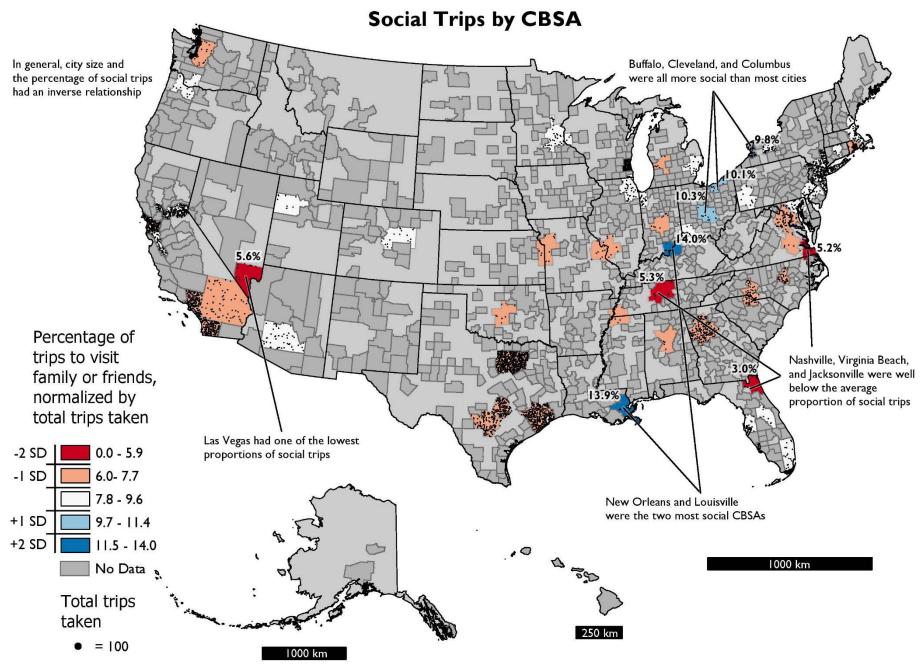
People sometimes look to others for companionship, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? Choose one number from each line.

Social Support Survey Resources

Scoring Instructions for MOS Social Support Survey Instrument

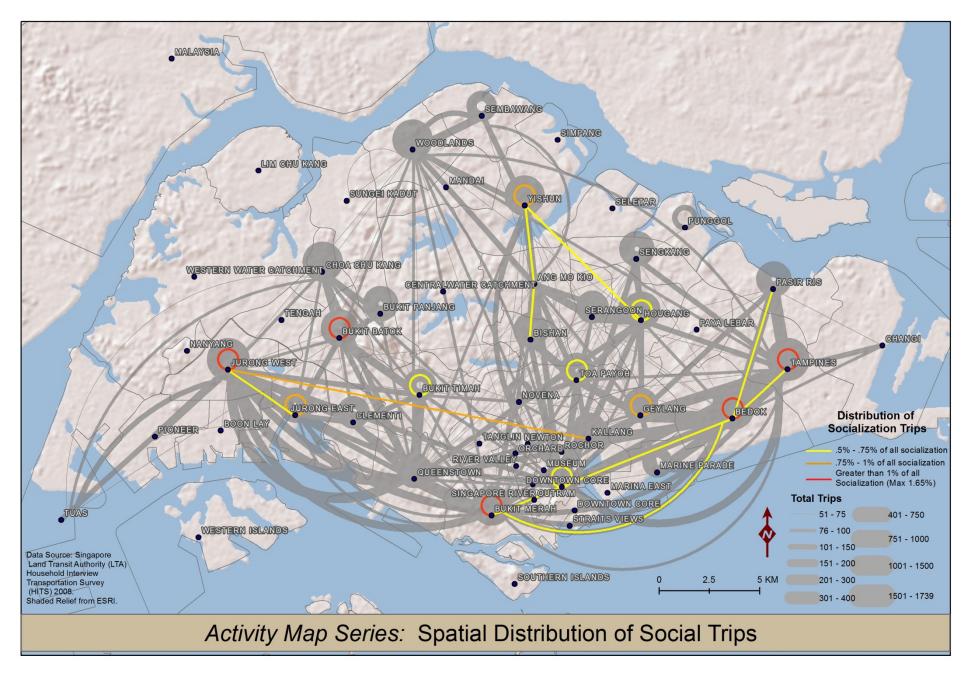
	Emotional/informational support		None of the time	A little of the time	Some of the time	Most of the time	All of the time			
	Someone you can count on to listen to you when you need to talk		0 1	O 2	○ 3	O 4	O 5			
	Someone to give you information to help you understand a situ	formation to help you understand a situation		O 2	3	O 4	O 5			
	Someone to give you good advice about a crisis		0 1	O 2	0 3	O 4	O 5			
	Someone to confide in or talk to about yourself or your problem	ns	0 1	O 2	○ 3	O 4	O 5			
	Someone whose advice you really want		0 1	© 2	3	O 4	O 5			
	Someone to share your most private worries and fears with		O 1	O 2	O 3	O 4	O 5			
	Someone to turn to for suggestions about how to deal with a p	ersonal	0 1	© 2	○ 3	O 4	O 5			
	problem	Tangible	Tangible support				A little of the time	Some of the time	Most of the time	All of the time
	Someone who understands your problems	Someone to	help you if you were	e confined to bed		0 1	O 2	○ 3	O 4	O 5
		Someone to	take you to the doc	or if you needed it		O 1	O 2	O 3	0 4	O 5
		Someone to	prepare your meals	if you were unable to	do it yourself	0 1	O 2	O 3	O 4	O 5
		Someone to	help with daily chore	es if you were sick		1	◎ 2	3	O 4	O 5
		Affectio	nate support			None of the time	A little of the time	Some of the time	Most of the time	All of the time
		Someone w	ho shows you love a	nd affection		0 1	O 2	0 3	O 4	O 5
		Someone to	love and make you	feel wanted		0 1	O 2	O 3	O 4	O 5
htt	ps://www.rand.org/health-	Someone who hugs you				0 1	0 2	0 3	O 4	O 5
	re/surveys_tools/mos/social-	Positive social interaction				None of the time	A little of the time	Some of the time	Most of the time	All of the time
sur	oport/survey-	Someone to have a good time with				0 1	O 2	O 3	O 4	O 5
ins	trument.html	Someone to	get together with for	r relaxation		1	O 2	O 3	O 4	O 5
		Someone to	do something enjoy	able with		0 1	2	O 3	O 4	O 5

From general GPS movement to socially-motivated movement



Source: Oak Ridge National Labs, National Household Travel Survey (2017) https://nhts.ornl.gov/ Total: 923,573 trips (117,223 HH)

Map by Max Glines and Clio Andris of the Friendly Cities Lab



Andris, C. (2012) Technical Report. Singapore MIT Alliance for Research and Technology (SMART) Future Urban Mobility Group

Conclusion

I have shown a few examples of geographic data that represent information about relationships.

- 1) POI-level (how relationships use POIs)
- 2) Administrative district-level (how social capital/social behavior is represented)

I encourage surveys and creative use of big data to help us enrich community data with these approaches.

Clio Andris , Assistant Professor

School of City + Regional Planning

School of Interactive Computing

Georgia Institute of Technology

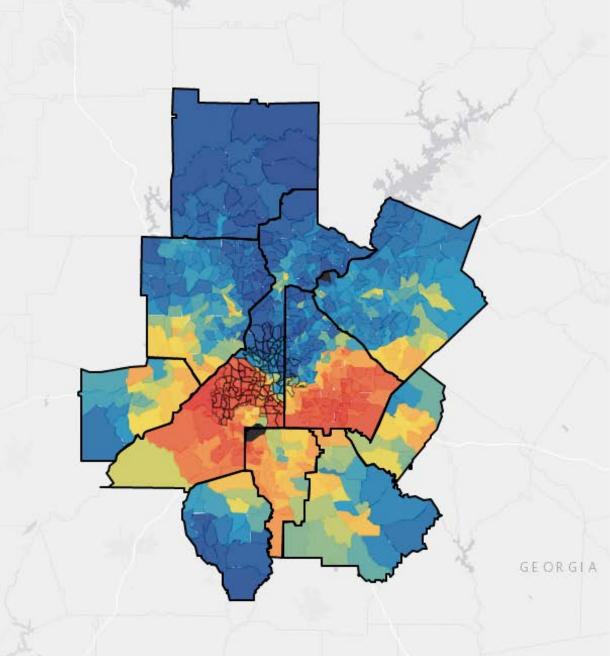
Director of the Friendly Cities Lab http://friendlycities.gatech.edu
clio@gatech.edu, @urbanclio



Align your services to community needs with stress-free data.

Tommy Pearce, Executive Director tpearce@atlantaregional.org

www.neighborhoodnexus.org



Neighborhood Nexus is a collaborative initiative with strong regional and national partners















Without community data and the know-how to leverage it, mission-driven organizations are...

- limiting impact and effectiveness
- risking misalignment of programs and community needs
- leaving unfilled service gaps for individuals and families
- wasting funds and resources



Neighborhood Nexus is solving this by enabling missiondriven organizations to more easily and confidently...



Ask the right questions



Use the best data



Tell compelling stories



Make informed decisions



Comprehensive Access

to thousands of indicators from dozens of sources and a free-to-use mapping and visualization platform



Custom Insights

and tailored tools for organizations looking to tell their story and/or make data-informed decisions



United Way of Metropolitan Atlanta



programs to ensure organizations have the training and tools they need to maximize their impact





Thinking about data...

Use data as a flashlight. It can find shiny objects and point you in the right direction.

The 20/80 rule: 20% of the research can get you 80% of the answer.

Don't forget to talk to people.



Digging deeper to identify systemic inequities

It isn't always enough to identify health *or* education *or* economic disparities

We need to be able to name and illustrate the systems that have led to these issues

It doesn't take many maps of Atlanta (or most anywhere) to find the pattern...

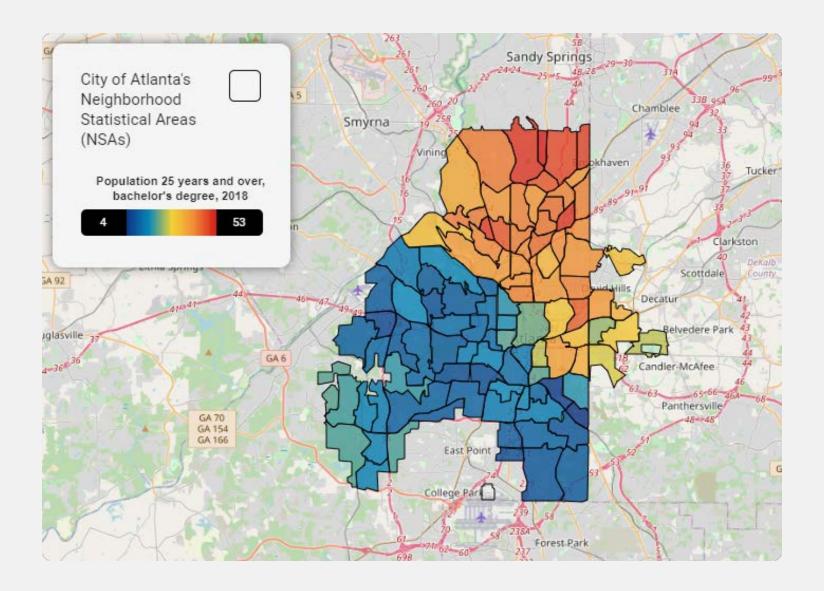


Introducing Data Nexus beta

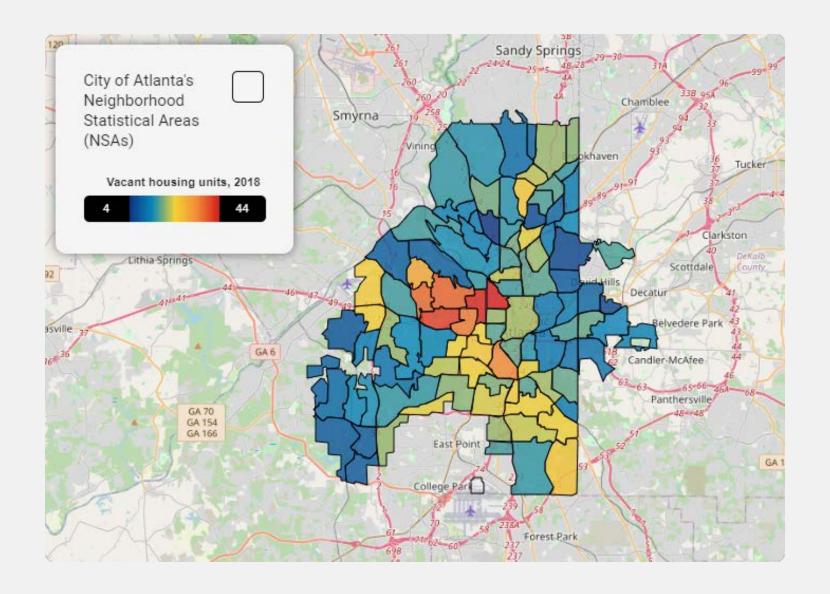


www.neighborhoodnexus.org/maps

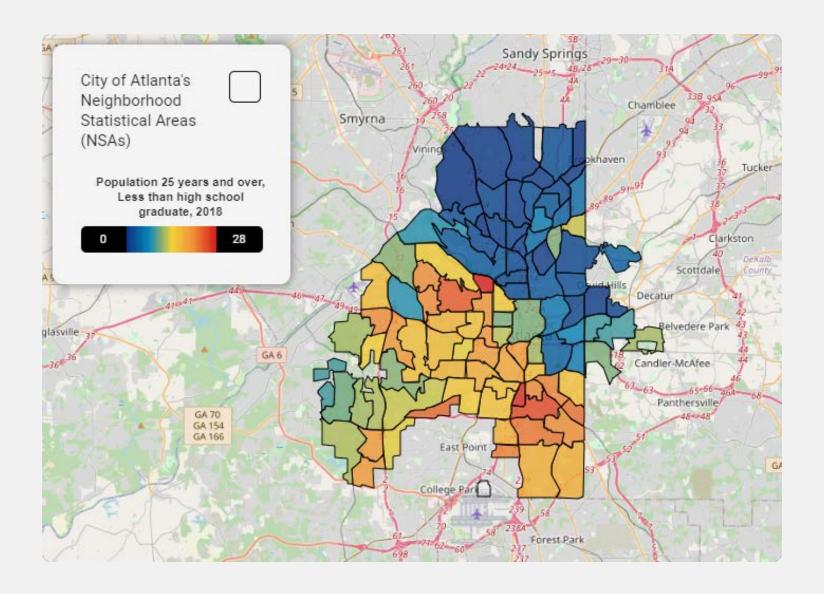




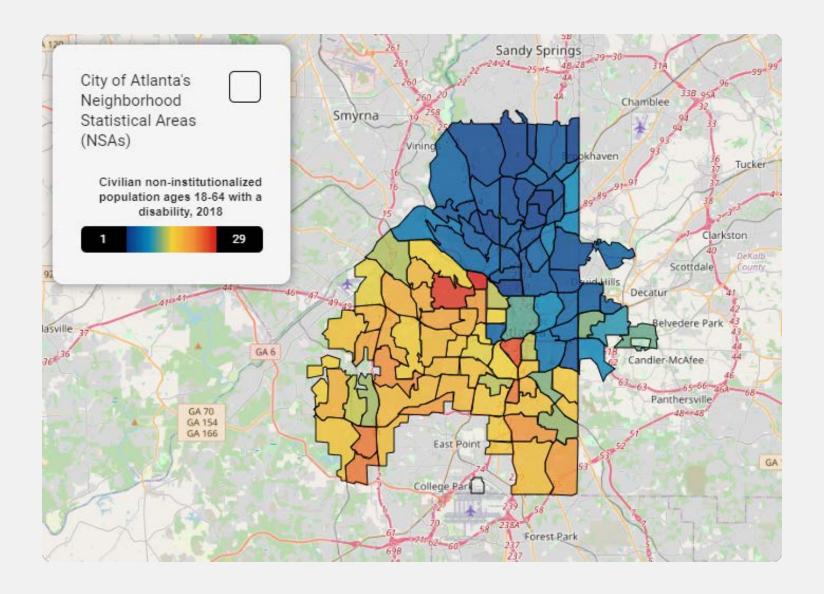




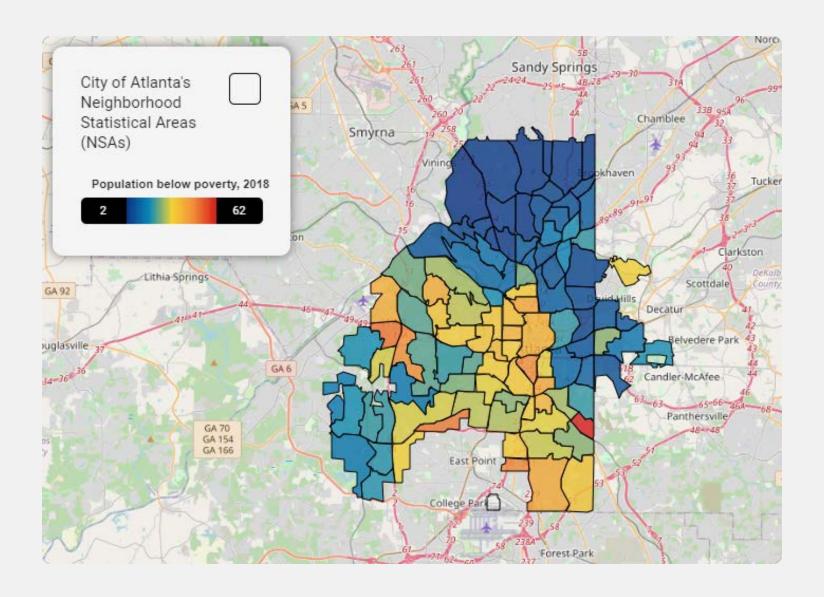




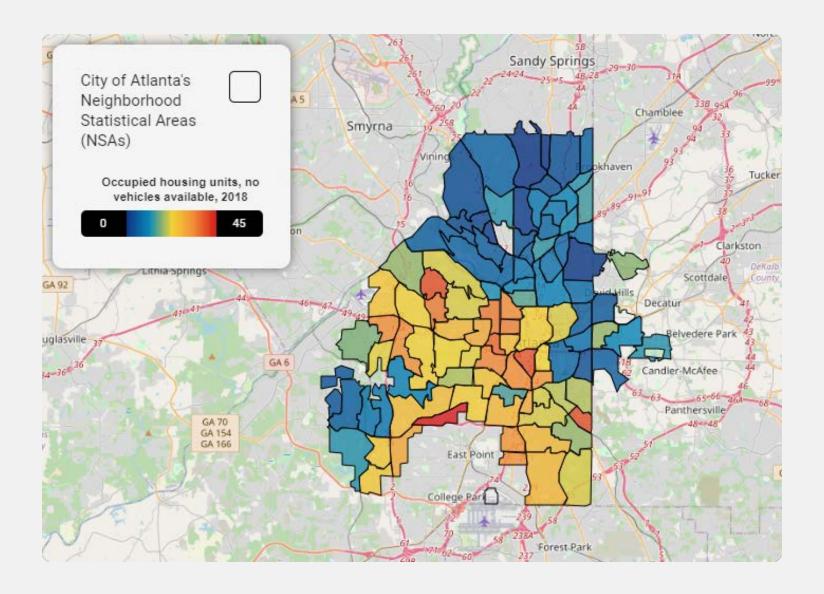




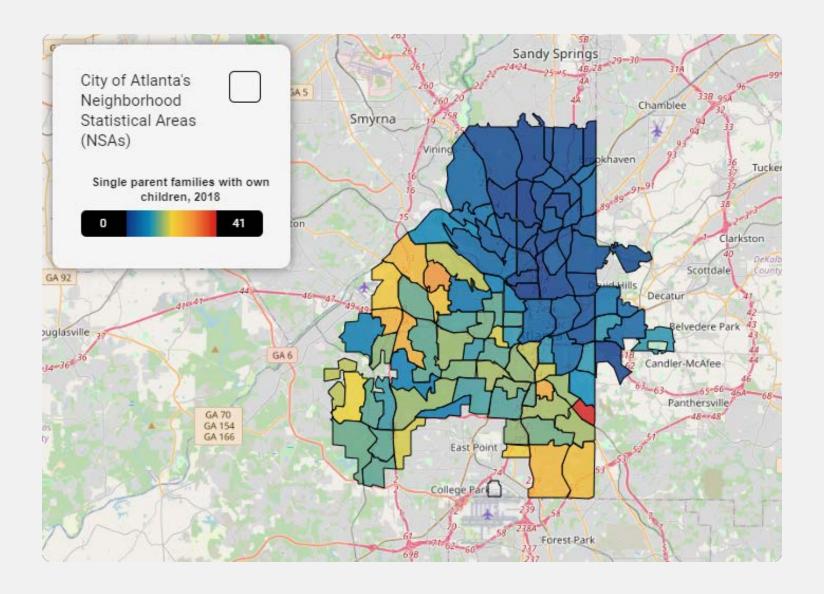




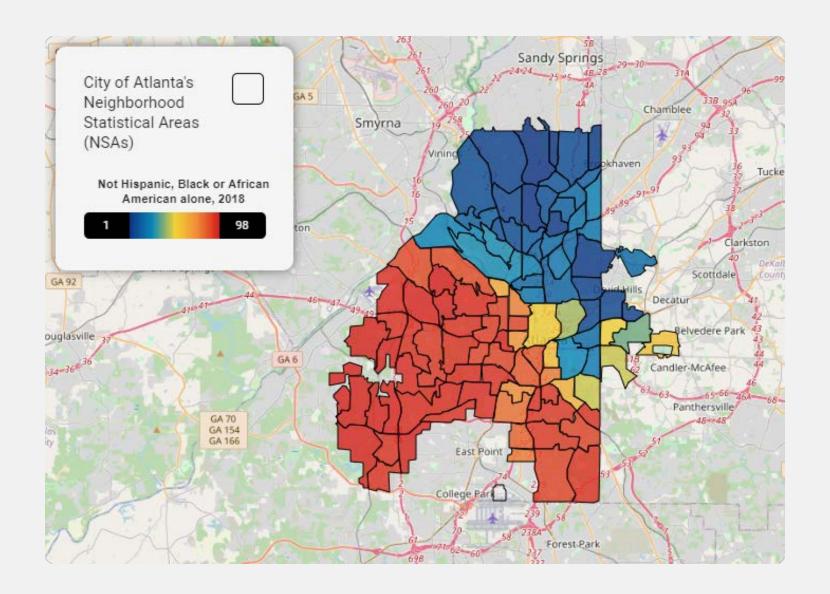




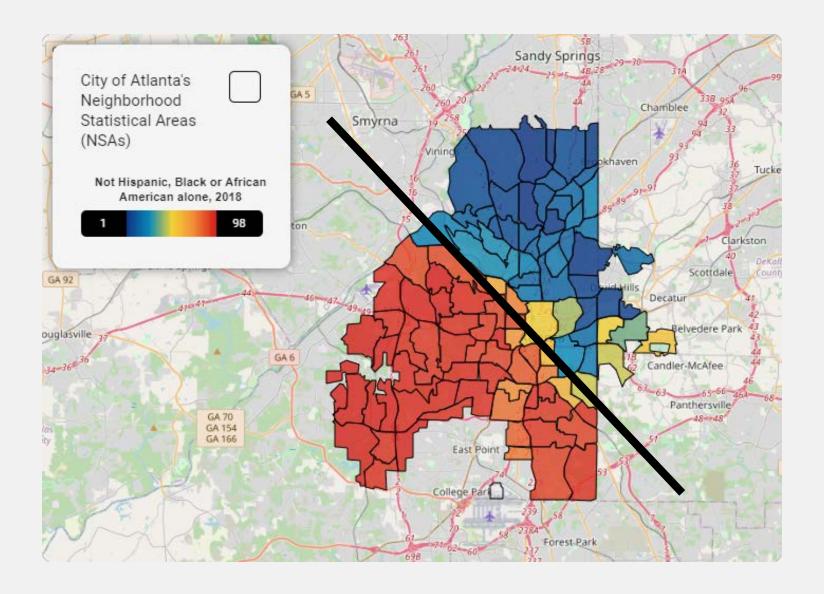




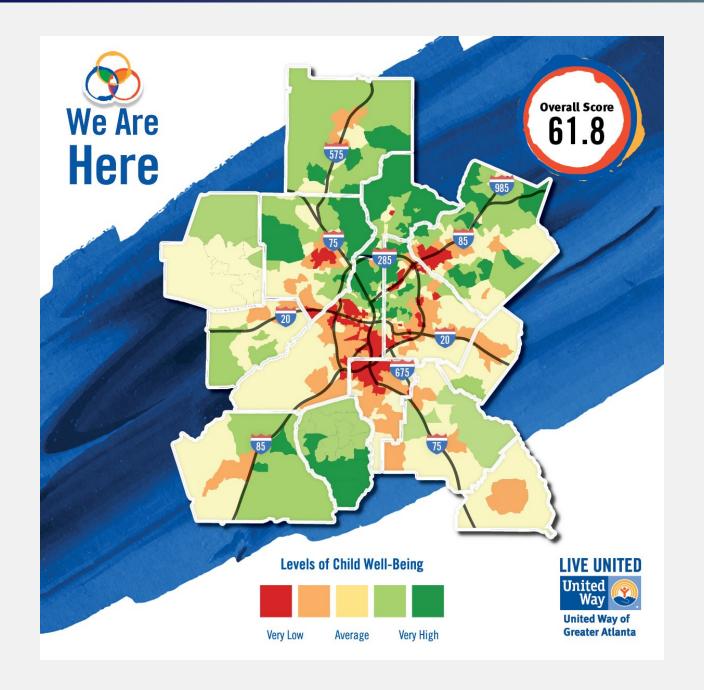












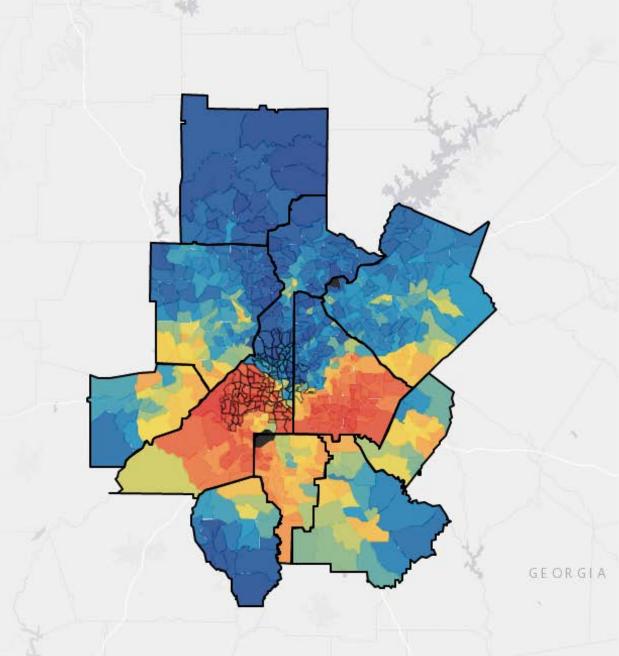




Thank you

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