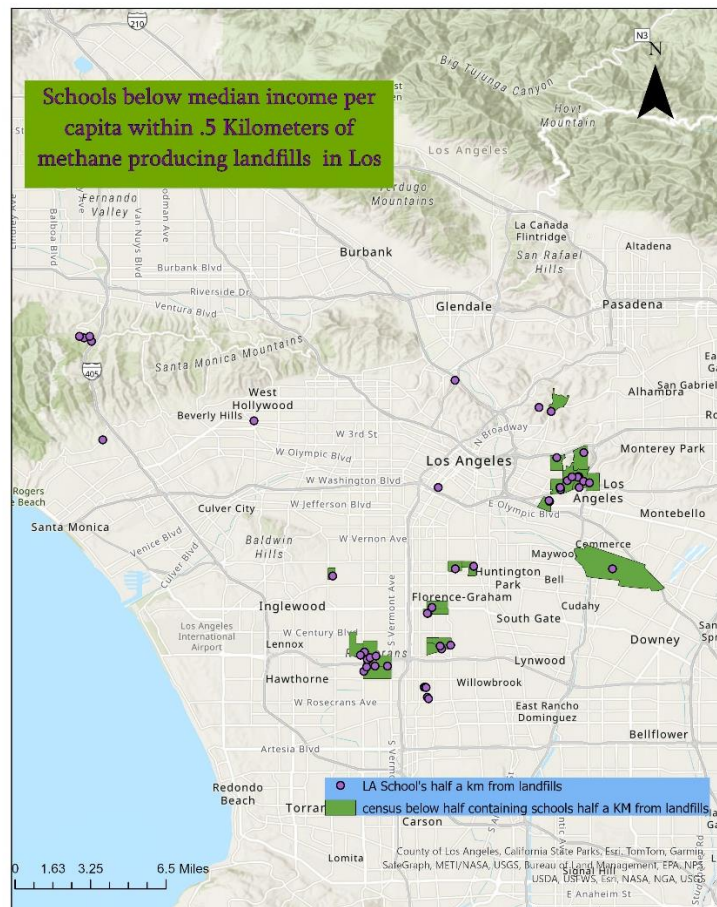Mastery Assignment #1
Kelly Haggerty
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Hi Leonela, here is a report of what I have found from the data on census, schools, and landfills that you provided:

Part 1: Schools below $17,006 income per capita in Los Angeles within half a Kilometer to a methane producing landfill.

A few important notes: I found 21 schools below the median income per capita within .5 KM within Los Angeles. 9 of the schools are in District 1, 11 in District 2, and 1 in District 4.
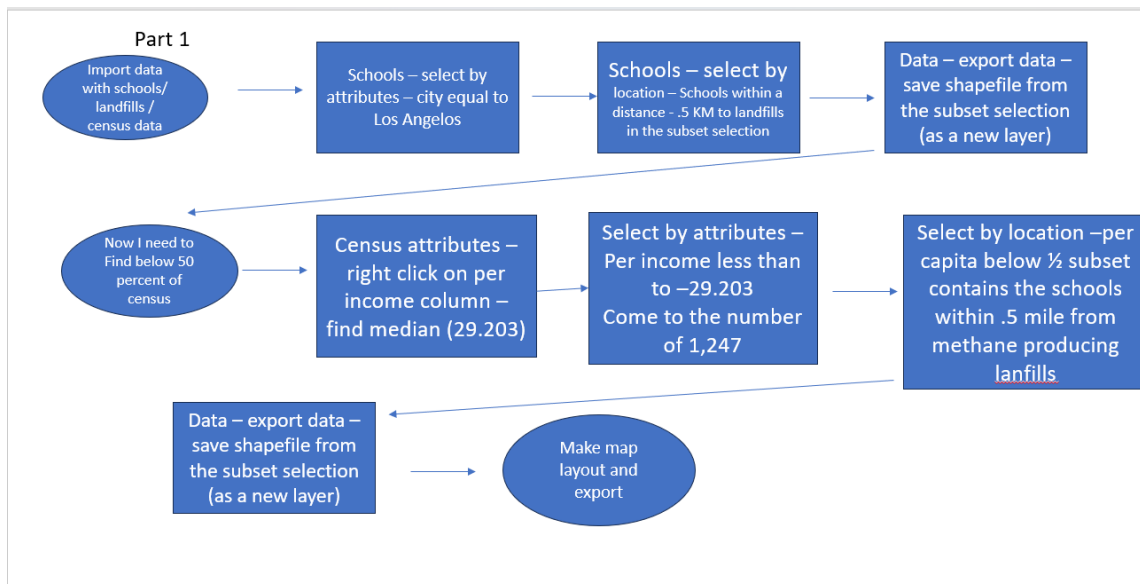
These 21 schools below income per capita is amongst 53 total Los Angeles schools within .5 KM of methane producing landfills.

Here is the data information about each of the schools:

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	FID	Shape	tract	income_per	sup_dist ▲	csa	spa	ESRI_OID	Shape__Are	Shape__Len
1	7	Polygon	06037201301	25540	District 1	Los Angeles - El Sereno	SPA 4 - Metro	2354	9414202.77832	18595.388542
2	37	Polygon	06037204910	17006	District 1	Los Angeles - Boyle He...	SPA 4 - Metro	2384	5538623.950195	9616.40759
3	1522	Polygon	06037530500	18132	District 1	Unincorporated - East...	SPA 7 - East	3869	9613039.103516	12655.033779
4	1523	Polygon	06037530603	23674	District 1	Unincorporated - East...	SPA 7 - East	3870	13376169.991211	16685.413567
5	1525	Polygon	06037530801	22215	District 1	Unincorporated - East...	SPA 7 - East	3872	8211637.071289	12878.700326
6	1528	Polygon	06037530902	15176	District 1	Unincorporated - East...	SPA 7 - East	3875	5735064.026367	11636.533544
7	1529	Polygon	06037531000	15885	District 1	Unincorporated - East...	SPA 7 - East	3876	10694642.996094	15485.215755
8	1530	Polygon	06037531101	16308	District 1	Unincorporated - East...	SPA 7 - East	3877	7557497.759766	12127.658301
9	1531	Polygon	06037531102	16919	District 1	Unincorporated - East...	SPA 7 - East	3878	5432011.056641	9703.349992
10	508	Polygon	06037600302	27734	District 2	Unincorporated - Athe...	SPA 8 - South Bay	2855	8835937.300781	11971.18731
11	511	Polygon	06037600400	28587	District 2	Unincorporated - Athe...	SPA 8 - South Bay	2858	10556116.561523	16001.303032
12	695	Polygon	06037602801	16000	District 2	Unincorporated - Athe...	SPA 8 - South Bay	3042	13492811.512695	15760.447397
13	696	Polygon	06037602802	28783	District 2	Unincorporated - Athe...	SPA 8 - South Bay	3043	14412133.213867	16013.209629
14	965	Polygon	06037234901	17360	District 2	Los Angeles - Hyde Park	SPA 6 - South	3312	3502662.124023	7934.899496
15	1138	Polygon	06037239802	14964	District 2	Los Angeles - Florence...	SPA 6 - South	3485	6561812.22168	11250.571166
16	1139	Polygon	06037240010	12465	District 2	Los Angeles - Green M...	SPA 6 - South	3486	6336452.790039	12212.733331
17	1278	Polygon	06037240800	14367	District 2	Los Angeles - Century...	SPA 6 - South	3625	7005454.231445	13445.699974
18	1280	Polygon	06037240902	24886	District 2	Los Angeles - Century...	SPA 6 - South	3627	7585305.742188	12509.389187
19	1689	Polygon	06037532700	16822	District 2	Unincorporated - Flor...	SPA 7 - East	4036	6211866.112305	12139.259182
20	1690	Polygon	06037532800	11245	District 2	Unincorporated - Flor...	SPA 6 - South	4037	5952004.418945	9888.400599
21	1684	Polygon	06037532304	26060	District 4	City of Commerce	SPA 7 - East	4031	87568307.488281	47458.595277

Here is how I came to these answers in part 1:

Below is a letter we can submit to Holly J. Mitchell, Supervisorial for district 2:

Mastery Assignment #1
Kelly Haggerty
Fundamentals in GIS
Spring 2024

Holly J. Mitchell
Kenneth Hahn Hall of Administration
500 W Temple St, Room 866
Los Angeles, CA 90012

Dear Ms. Mitchell,

I am a broadly trained geographer at Temple University in Philadelphia, PA. For a Geographic Information Systems class assignment, I analyzed the proximity of methane producing landfills to Schools in Los Angeles. Specifically, I was interested in seeing the schools' districts below half income per capita in Los Angeles. My findings show that 11 Schools in District 2 are exposed to methane producing landfills. Please see the map contained in my letter.

Methane producing landfills can pollute the air which can affect the health of your students (and anyone of any age). The health impacts from poor air quality can result in students missing class, feeling sick, and feeling foggy. My concern here is that the poor air quality will impact students' ability to learn and perform in school. It might even affect their experience and quality of life.

Now I know that industries such as landfill industry are nearly impossible to enforce regulations that look after the health of neighbors. But I do think there are a few things we can do to ensure the students do not feel short-term and long-term affects of these landfills. For one, I believe we can ask the schools to install air filters (as well as regular maintenance checks) into these 11 schools. We can also install air quality monitors to keep track of when the air is good quality and when it is reaching poor quality. On these days when the air has poor quality based on the air sensing monitors, the administration can make an executive decision whether students play outside or not. Secondly, I think we implement a program for families, students, and faculty to write letters to state reps to enforce regulations on these methane producing landfills. It is their responsibility, after all, and we are just paying for it.

Thank you for your time reading this letter, and please just consider what I have presented to you here. You can reach me at Kelly.Haggerty@temple.edu if you'd like to meet further about my findings.
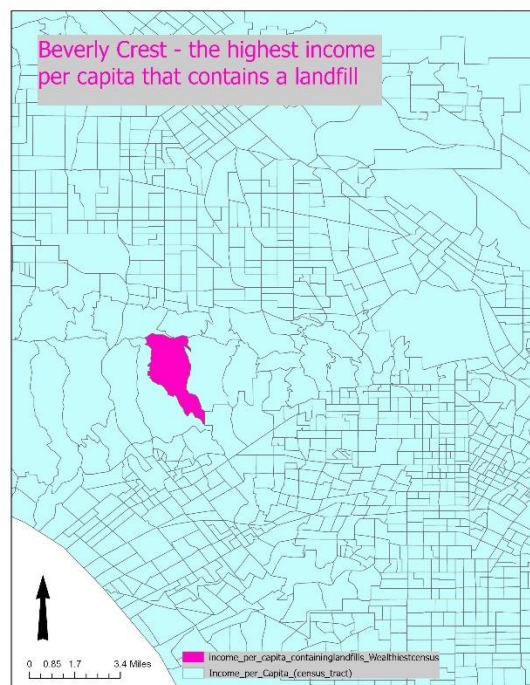
Best,

Kelly Haggerty
PhD student at Temple University
Department of Geography and Urban Studies
1115 W. Polett Walk, Room 307
Philadelphia, PA 19106

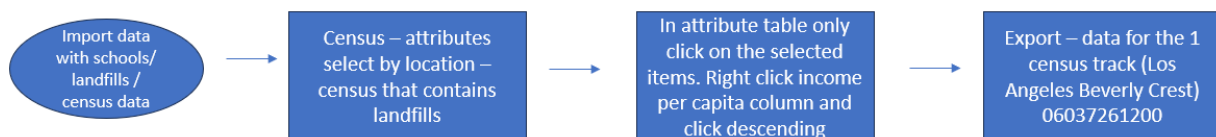**Part 2:** What is the wealthiest Census Tract (in terms of income_per_capita) to have a landfill in it?

Findings: Los Angeles - Beverly Crest, income per capita is $117.467

	FID	Shape *	tract	income_per ▾	sup_dist	csa	spa	ESRI_OID	Shape__Are	Shape__Len
1	92	Polygon	06037261200	117467	District 3	Los Angeles - Beverly C...	SPA 5 - West	3649	82038321.5391	56064.165233

Beverly Crest - the highest income per capita that contains a landfill

0 0.85 1.7   3.4 Miles

Income_per_capita_containinglandfills_Wealthiestcensus
Income_per_Capita_(census_tract)

Here is how I came to these answers in part 2:

Part 2:

Import data with schools/ landfills / census data → Census – attributes select by location – census that contains landfills → In attribute table only click on the selected items. Right click income per capita column and click descending → Export – data for the 1 census track (Los Angeles Beverly Crest) 06037261200
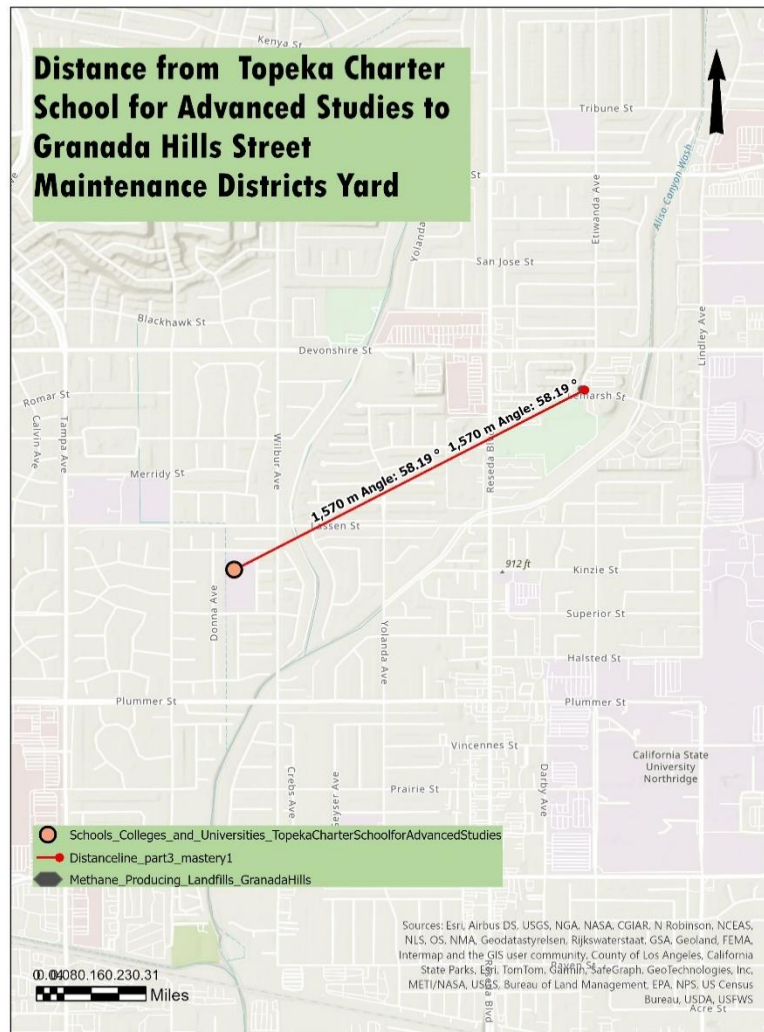
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Part 3: What is the closest methane landfill to Topeka Charter School for Advanced Studies in Northridge, California?

The closes landfill to Topeka Charter School for Advanced Studies in Northridge is Granada Hills Street Maintenance Districts Yard.

Here is how I came to these answers in part 3: