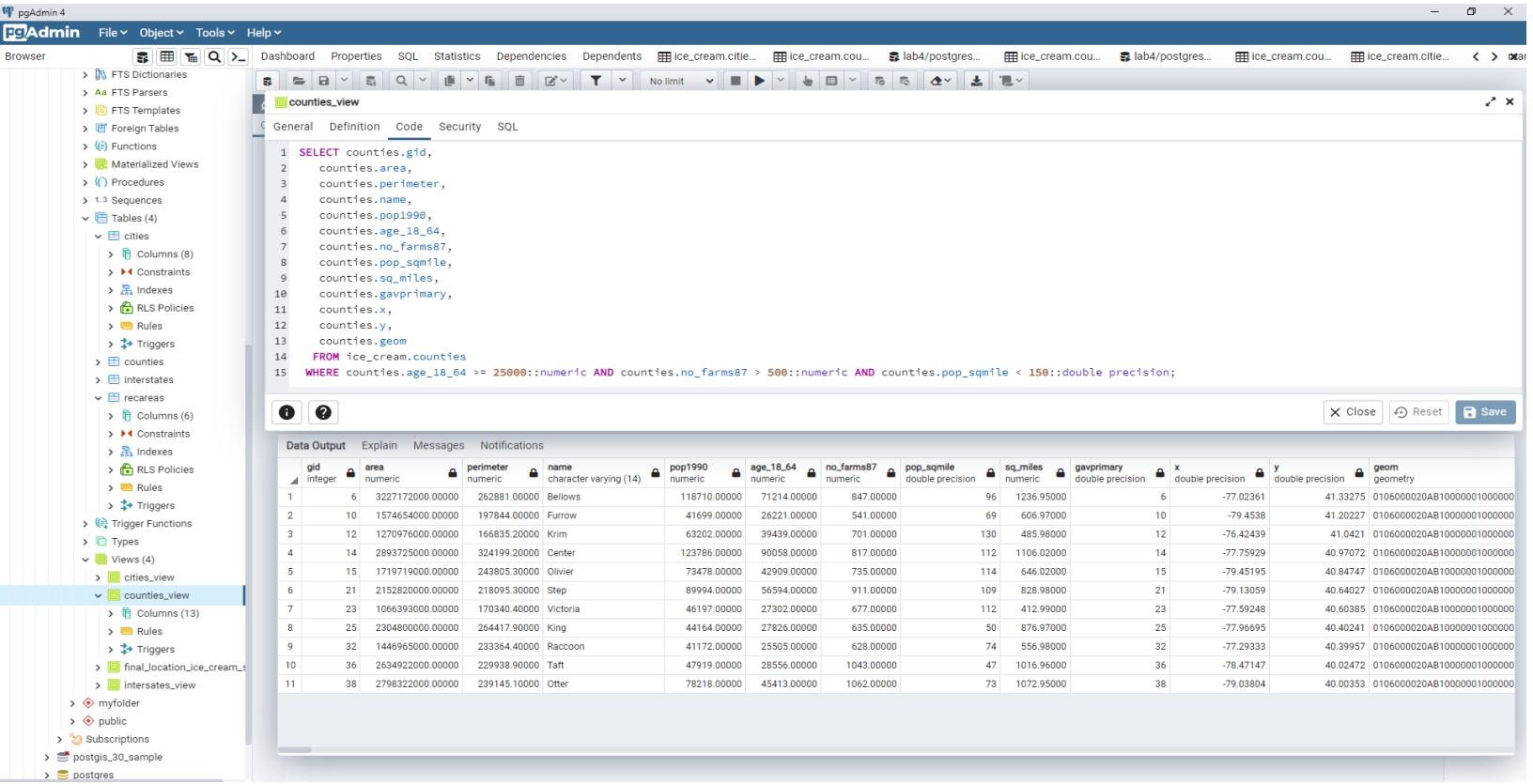
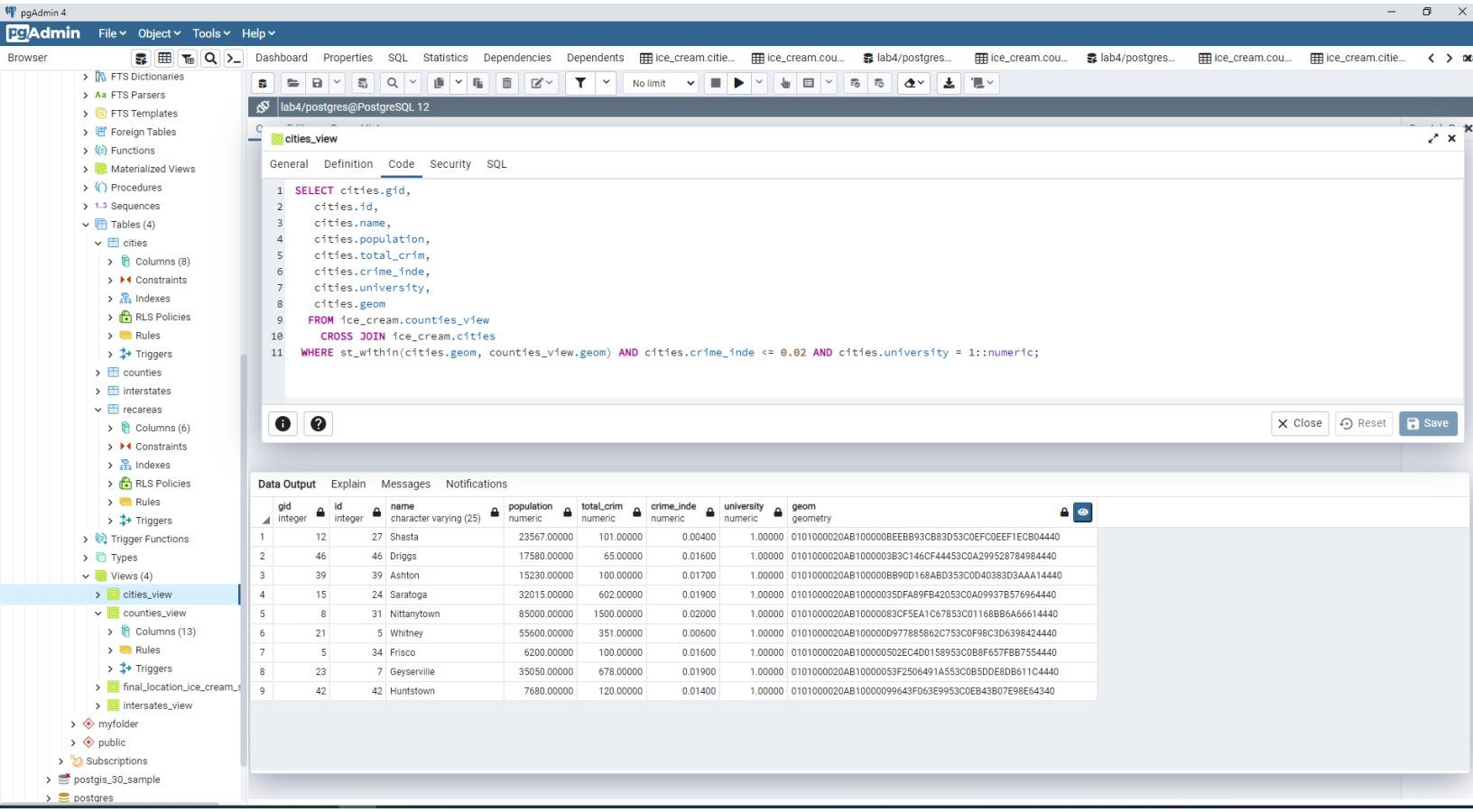
1. County_Level Queries & Result:



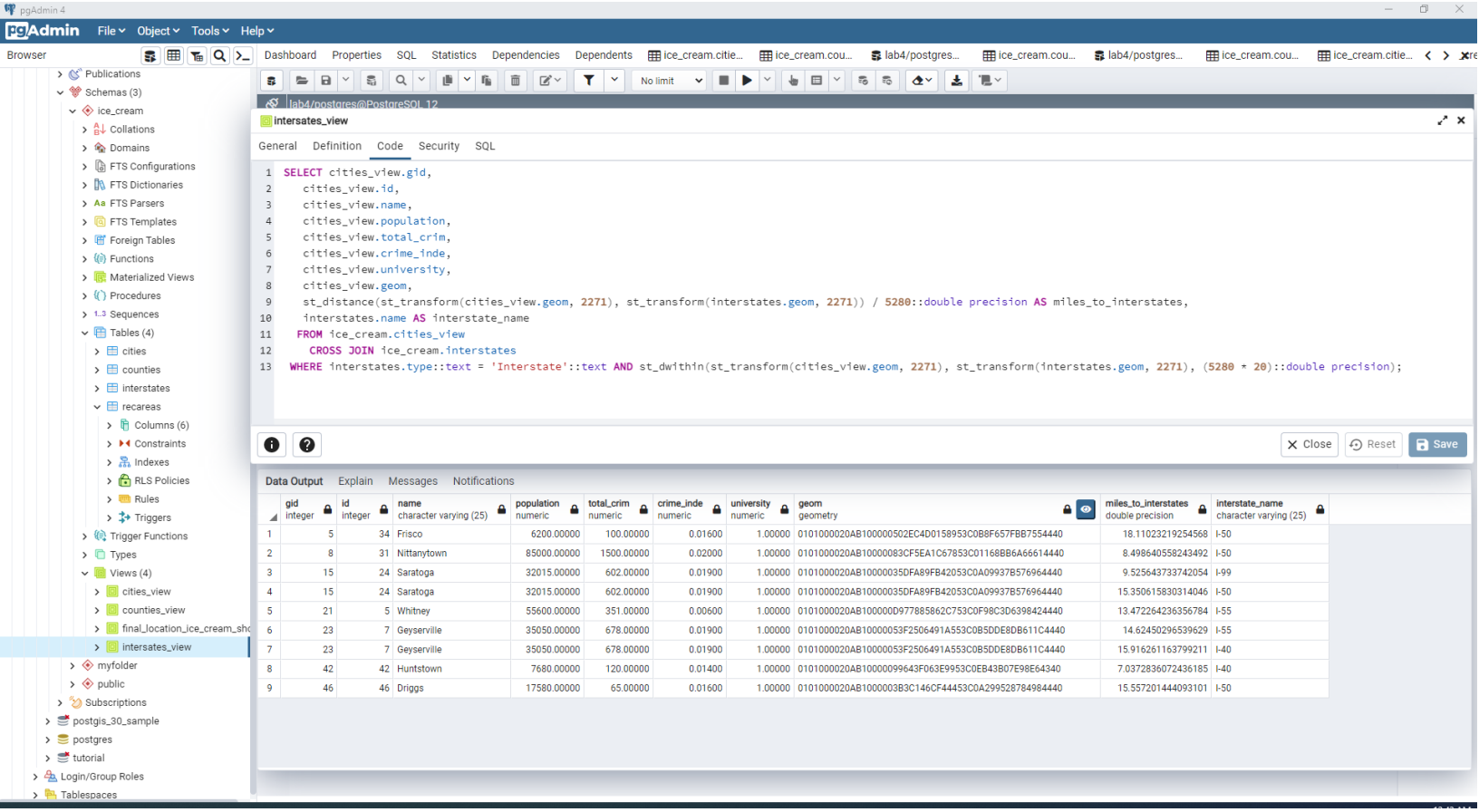
	gid integer	area numeric	perimeter numeric	name character varying (14)	pop1990 numeric	age_18_64 numeric	no_farms87 numeric	pop_sqmile double precision	sq_miles numeric	gavprimary double precision	x double precision	y double precision	geom geometry
1	6	3227172000.00000	262881.00000	Bellows	118710.00000	71214.00000	847.00000	96	1236.95000	6	-77.02361	41.33275	0106000020AB10000001000000
2	10	1574654000.00000	197844.00000	Furrow	41699.00000	26221.00000	541.00000	69	606.97000	10	-79.4538	41.20227	0106000020AB10000001000000
3	12	1270976000.00000	166835.20000	Krim	63202.00000	39439.00000	701.00000	130	485.98000	12	-76.42439	41.0421	0106000020AB10000001000000
4	14	2893725000.00000	324199.20000	Center	123786.00000	90058.00000	817.00000	112	1106.02000	14	-77.75929	40.97072	0106000020AB10000001000000
5	15	1719719000.00000	243805.30000	Olivier	73478.00000	42909.00000	735.00000	114	646.02000	15	-79.45195	40.84747	0106000020AB10000001000000
6	21	2152820000.00000	218095.30000	Step	89994.00000	56594.00000	911.00000	109	828.98000	21	-79.13059	40.64027	0106000020AB10000001000000
7	23	1066393000.00000	170340.40000	Victoria	46197.00000	27302.00000	677.00000	112	412.99000	23	-77.59248	40.60385	0106000020AB10000001000000
8	25	2304800000.00000	264417.90000	King	44164.00000	27826.00000	635.00000	50	876.97000	25	-77.96695	40.40241	0106000020AB10000001000000
9	32	1446965000.00000	233364.40000	Raccoon	41172.00000	25505.00000	628.00000	74	556.98000	32	-77.29333	40.39957	0106000020AB10000001000000
10	36	2634922000.00000	229938.90000	Taft	47919.00000	28556.00000	1043.00000	47	1016.96000	36	-78.47147	40.02472	0106000020AB10000001000000
11	38	2798322000.00000	239145.10000	Otter	78218.00000	45413.00000	1062.00000	73	1072.95000	38	-79.03804	40.00353	0106000020AB10000001000000

2. City_Level Queries & Result:



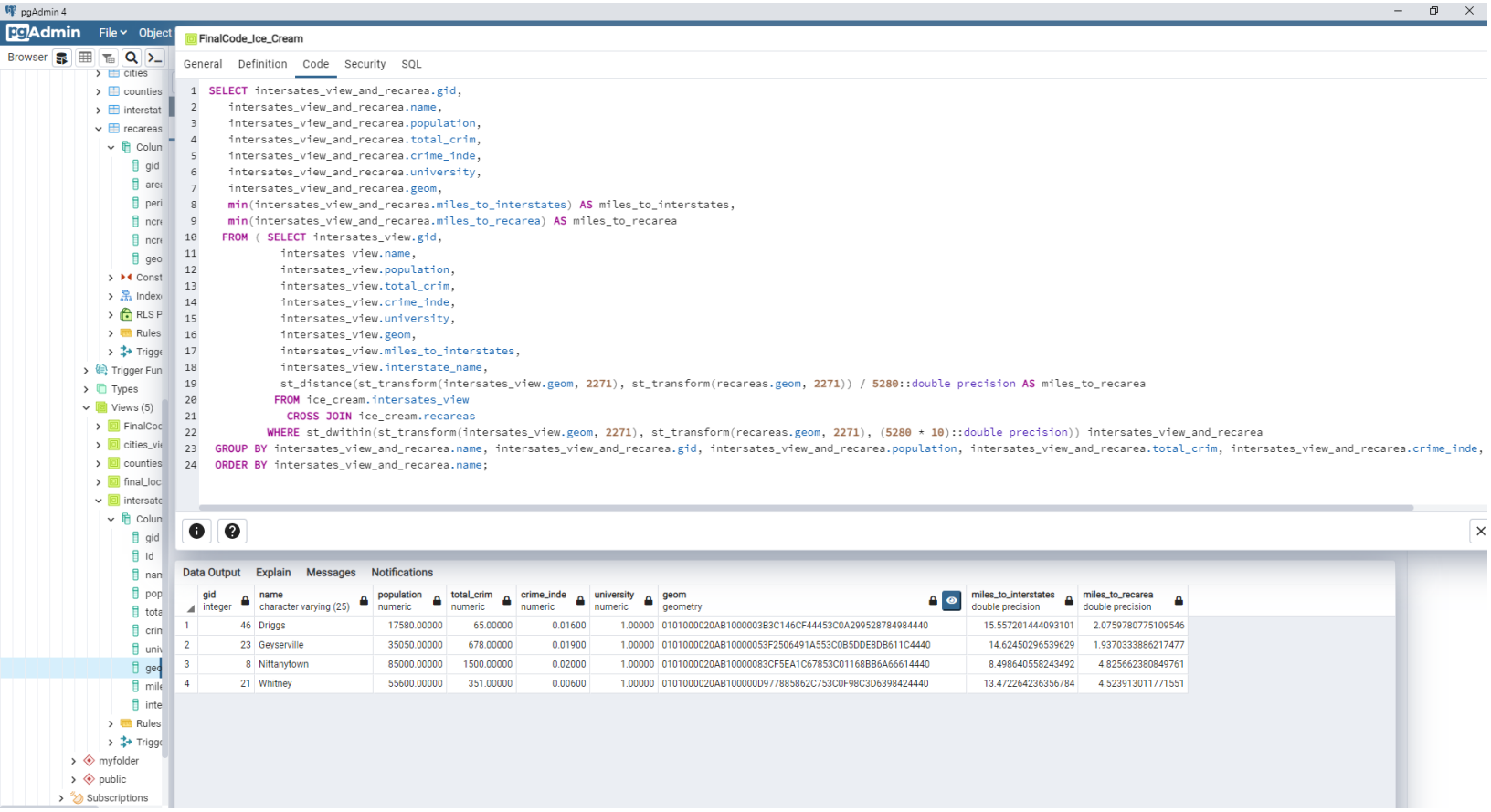
	gid integer	id integer	name character varying (25)	population numeric	total_crim numeric	crime_inde numeric	university numeric	geom geometry
1	12	27	Shasta	23567.00000	101.00000	0.00400	1.00000	0101000020AB100000BEEBB93CB83D53C0EFC0EEF1ECB04440
2	46	46	Driggs	17580.00000	65.00000	0.01600	1.00000	0101000020AB1000003B3C146CF44453C0A29952878498444O
3	39	39	Ashton	15230.00000	100.00000	0.01700	1.00000	0101000020AB100000BB90D168ABD353C0D40383D3AAA14440
4	15	24	Saratoga	32015.00000	602.00000	0.01900	1.00000	0101000020AB10000035DFA89FB42053C0A09937B576964440
5	8	31	Nittanytown	85000.00000	1500.00000	0.02000	1.00000	0101000020AB10000083CF5EA1C67853C01168BB6A66614440
6	21	5	Whitney	55600.00000	351.00000	0.00600	1.00000	0101000020AB100000D977885862C753C0F98C3D6398424440
7	5	34	Frisco	6200.00000	100.00000	0.01600	1.00000	0101000020AB100000502EC4D0158953C0B8F657FBB7554440
8	23	7	Geyserville	35050.00000	678.00000	0.01900	1.00000	0101000020AB10000053F2506491A553C0B5DDE8DB611C4440
9	42	42	Huntstown	7680.00000	120.00000	0.01400	1.00000	0101000020AB10000099643F063E9953C0EB43B07E98E64340

3. Interstates_Level Queries & Result:

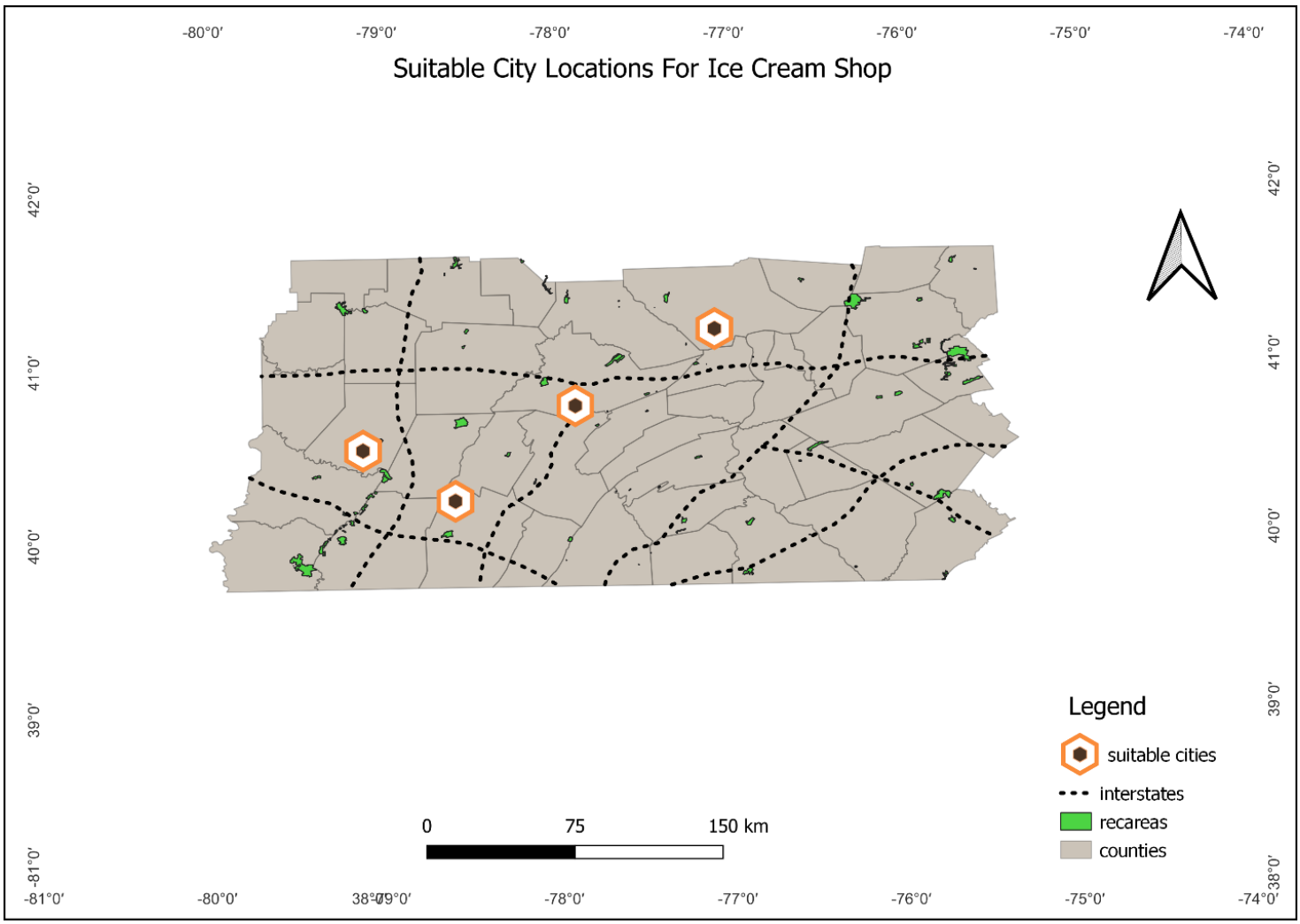


	gid integer	id integer	name character varying (25)	population numeric	total_crim numeric	crime_inde numeric	university numeric	geom geometry	miles_to_interstates double precision	interstate_name character varying (25)
1	5	34	Frisco	6200.00000	100.00000	0.01600	1.00000	0101000020AB100000502EC4D0158953C0B8F657FBB7554440	18.11023219254568	I-50
2	8	31	Nittanytown	85000.00000	1500.00000	0.02000	1.00000	0101000020AB10000083CF5EA1C67853C01168BB6A66614440	8.498640558243492	I-50
3	15	24	Saratoga	32015.00000	602.00000	0.01900	1.00000	0101000020AB10000035DFA89FB42053C0A09937B576964440	9.525643733742054	I-99
4	15	24	Saratoga	32015.00000	602.00000	0.01900	1.00000	0101000020AB10000035DFA89FB42053C0A09937B576964440	15.350615830314046	I-50
5	21	5	Whitney	55600.00000	351.00000	0.00600	1.00000	0101000020AB100000D977885862C753C0F98C3D6398424440	13.472264236356784	I-55
6	23	7	Geyserville	35050.00000	678.00000	0.01900	1.00000	0101000020AB10000053F2506491A553C0B5DDE8DB611C4440	14.62450296539629	I-55
7	23	7	Geyserville	35050.00000	678.00000	0.01900	1.00000	0101000020AB10000053F2506491A553C0B5DDE8DB611C4440	15.916261163799211	I-40
8	42	42	Huntstown	7680.00000	120.00000	0.01400	1.00000	0101000020AB10000099643F063E9953C0EB43B07E98E64340	7.0372836072436185	I-40
9	46	46	Driggs	17580.00000	65.00000	0.01600	1.00000	0101000020AB1000003B3C146CF44453C0A29952878498440	15.557201444093101	I-50

4. Final Queries & Result:



5. Map from QGIS based on Four Suitable City Location with all the criteria:



6. **Write-up on summarizing my approach to this Assignment:**

At the very beginning, I imported four shapefiles into PgAdmin4 through PostGIS Shapefile Import into my schema called ice-cream under lab4 database.

1. In the workflow, first of all, I narrowed down 11 counties based on the criteria that it includes Greater than 500 farms for milk production, a labor pool of at least 25,000 individuals between the ages of 18 and 64 years, a population of less than 150 individuals per square miles. And, I saved it as "counties_view"
2. Then, I wrote my city level queries using cities table where I executed codes to ensure that my queries include a low crime index (less than or equal to 0.02) and cities located nearby at least one university or college. This query narrowed down the location into 9 cities, and I saved it as "cities_view". In this case I used CROS JOIN method to link the two tables. And I saved it as "interstate_view"
3. In my third query, I used my second view and interstate table by another CROSS JOIN where I fulfilled 'Interstate within 20 miles' criteria. Here, kept 9 cities, however, they were within 20 miles' interstate with interstate-name.
4. In my final queries, I used 'intersates_view_and_recarea', a combination from my third view and fourth table called recarea, where I executed code to meet the criteria namely, at least one recreation area within 10 miles. Then, I sorted my tables as it is in the final tables and run it by name order. I changed the coordinate system into Pennsylvanian North using SRID 2271 where it was necessary and used feet to mile conversion taking value, 5280. And I saved this view as FinalCode_Ice_Crream.
5. Lastly, I imported my database with schema and all those tables and narrowed-down Views into QGIS. Then, I created an aesthetically appealing map which represents Four Suitable City Locations in Pennsylvania State.