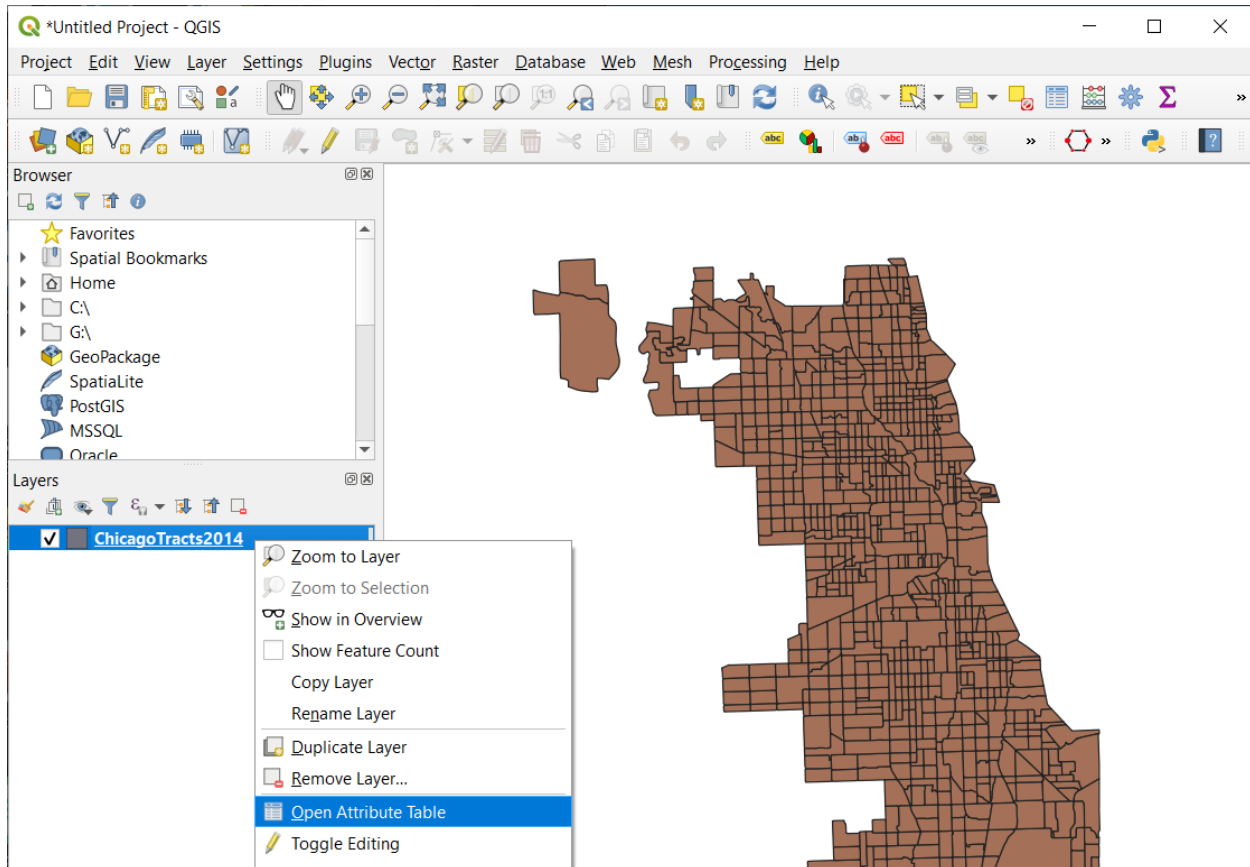




Use QGIS Field Calculator: Calculate Population Density

- Open **QGIS Desktop** and **Add the Vector Layer**
- In the Layers Panel, right-click the layer and select **Open Attribute Table**.



- In the Attribute Table dialog window, click on the **Toggle editing mode** button  (see image below). The editing mode will allow you to make changes to the attribute table, such as *creating a new column* or *deleting an existing column*.


ChicagoTracts2014 :: Features Total: 801, Filtered: 801, Selected: 0

 Toggle editing mode (Ctrl+E)

		white	black	asian	mixed	other	med_income
1	17031221500	2574	2270	99	46	48	35787
2	17031221300	2762	2148	153	45	100	48095
3	17031221100	4810	3359	779	80	226	43750
4	17031161200	2664	2006	19	297	186	47266
5	17031161100	2026	1736	49	125	98	84542
6	17031160900	2272	1922	14	270	30	66786
7	17031160800	5388	4212	52	472	199	55256

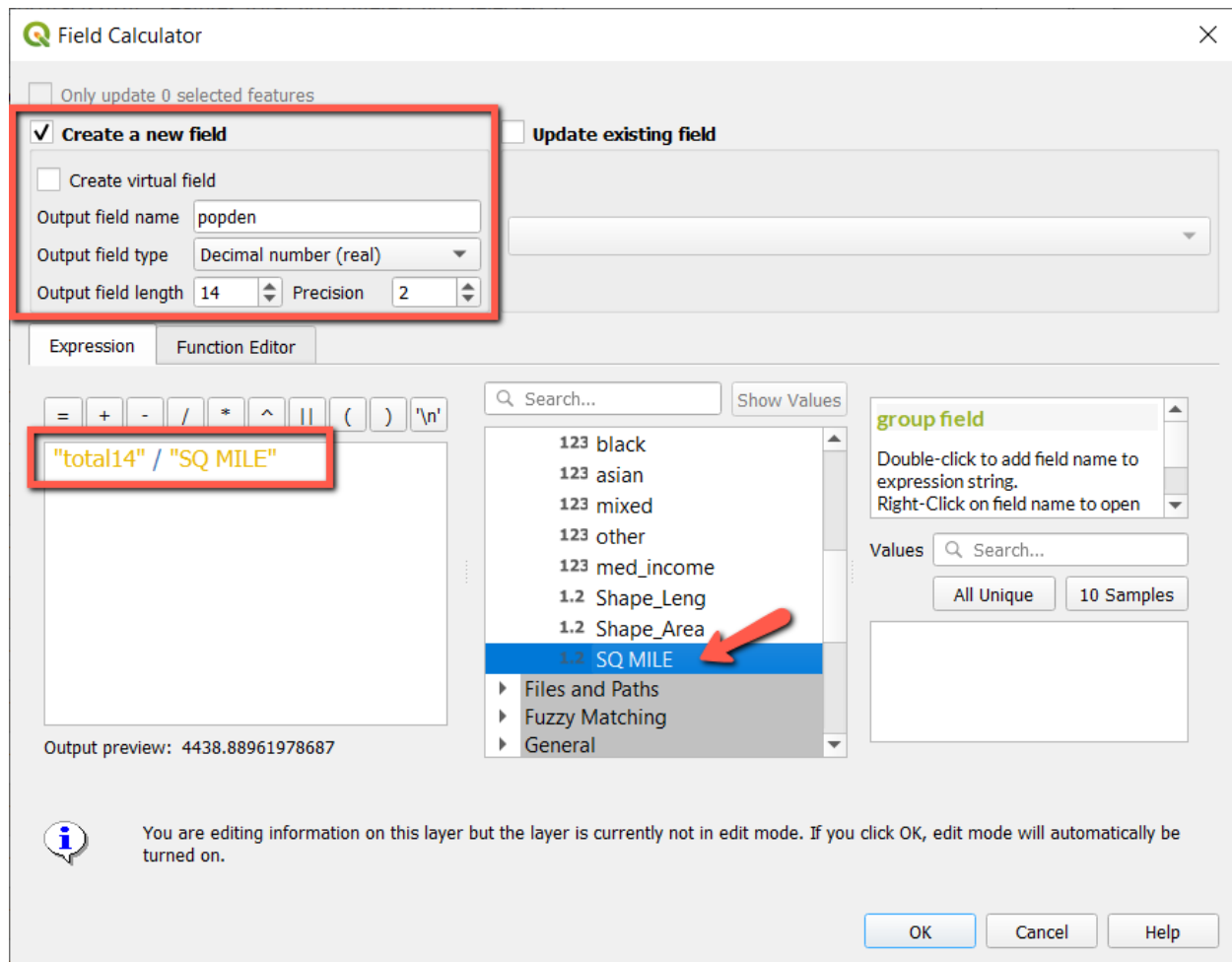
- Then click on the **Open field calculator** button .


ChicagoTracts2014 :: Features Total: 801, Filtered: 801, Selected: 0

abc geoid10 =  Update All Update Selected

	geoid10	total14	white	black	asian	mixed	other	med_income
1	17031221500	2574	2270	99	46	48	111	35787
2	17031221300	2762	2148	153	45	100	316	48095
3	17031221100	4810	3359	779	80	226	366	43750
4	17031161200	2664	2006	19	297	186	156	47266
5	17031161100	2026	1736	49	125	98	18	84542
6	17031160900	2272	1922	14	270	30	36	66786

- Now, we are about to create a new field to calculate population density using the values from **POP10** (total 2010 population) and **SQ MILE** (total area measured in square mile). In the Field calculator window, make the following changes:
 - Check the box next to **Create a new field** (we will create a new field to hold the population density values)
 - Set the Output field name as **popden** (this is the name of the new field)
 - Set the Output field type as **Decimal number (real)** (the data type of the new field)
 - Set Output field width as **14 (total number of digits)**, **Precision as 2 (number of decimal places)**
 - Enter the Expression to calculate "**total14**" / "**SQ MILE**". You can double-click the field name from the **Fields and Values** section to add a field. And you may complete the rest of the expression using your keyboard.
 - Click **OK** to calculate the population density field.




- Be sure to save your changes by clicking on the **Save Edits** button .

Attribute table - ChicagoTracts2014 :: Features total: 801, filtered: 801, selected: 0

abc geoid10

	total14	white	black	asian	mixed	other	med_income	Shape_Leng	Shape_Area	SQ MILE
0	3374	0	3374	0	0	0	35349	22777.47738...	21190885.52...	0.7601
1	4147	1885	108	828	193	1133	44554	16035.05499...	8947393.972...	0.3209
2	7622	358	302	6691	271	0	25292	15186.40024...	12306142.70...	0.4414
3	5685	2900	285	22	69	2409	31834	10472.23035...	6731931.228...	0.2415
4	1866	1019	448	293	57	49	47969	14719.44311...	12460159.24...	0.4469
5	5744	2935	2	99	191	2517	58485	13299.91218...	10608487.10...	0.3805
6	5147	68	5029	37	13	0	42355	19495.54978...	17631568.81...	0.6324

- Then click on the **Toggle editing mode** button  again to exit the editing mode. Then close the attribute table.