ADVANCED DATABASE SYSTEMS

CSE -6331-002

PROJECT – MILESTONE 2

TEAM 2:

Jeyamaruthi Jayakumar – 1001757737

Mujahed Khaled Sheikh – 1001764918

Query 1: Display the roads that are located in Tarrant county in Red color and in Dallas county in Black color and the rest of the counties in Yellow color.

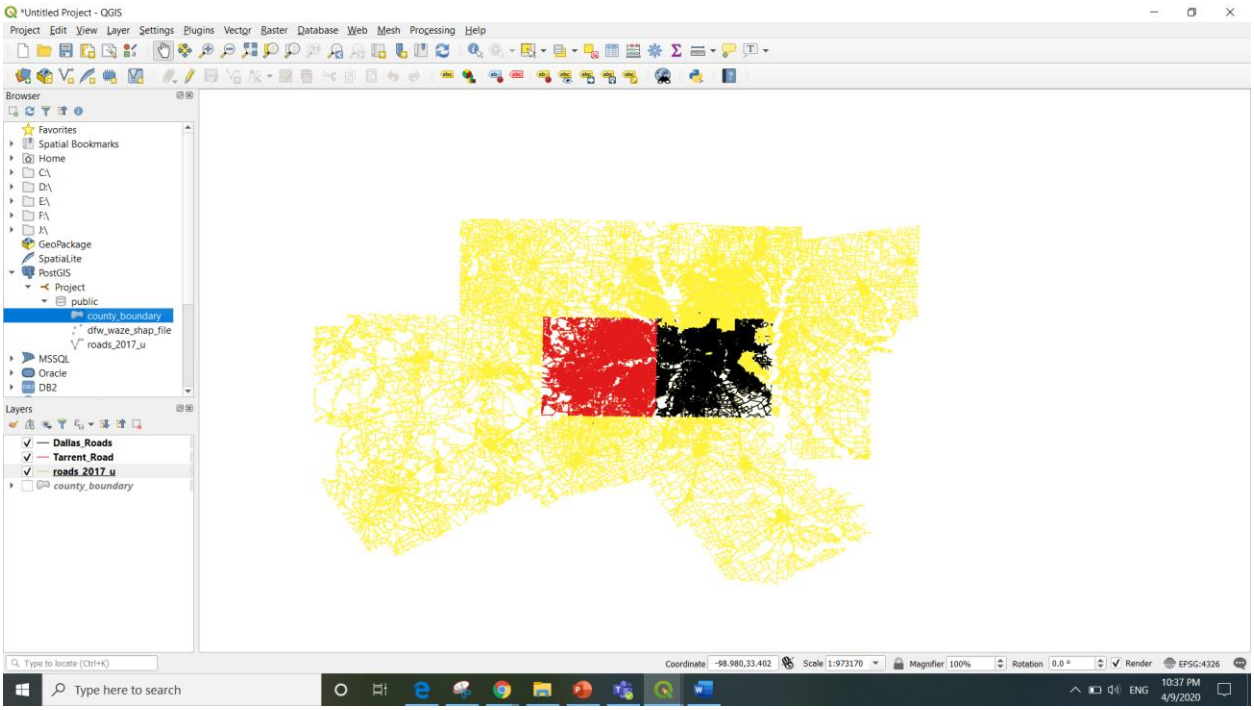
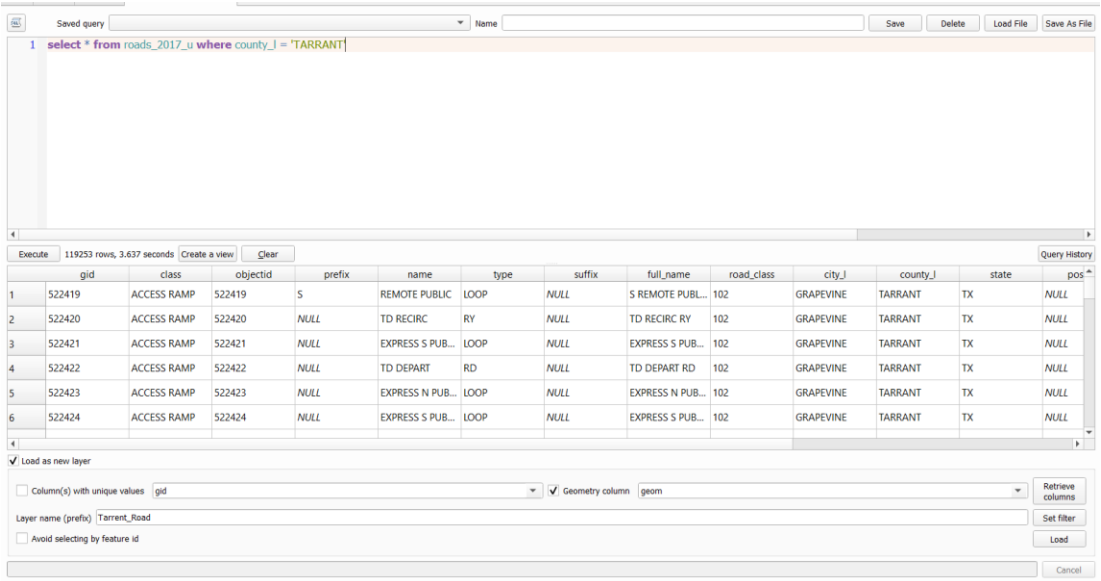


Fig1: Solution for Query 1

Steps followed to display the above Map in PostGIS:

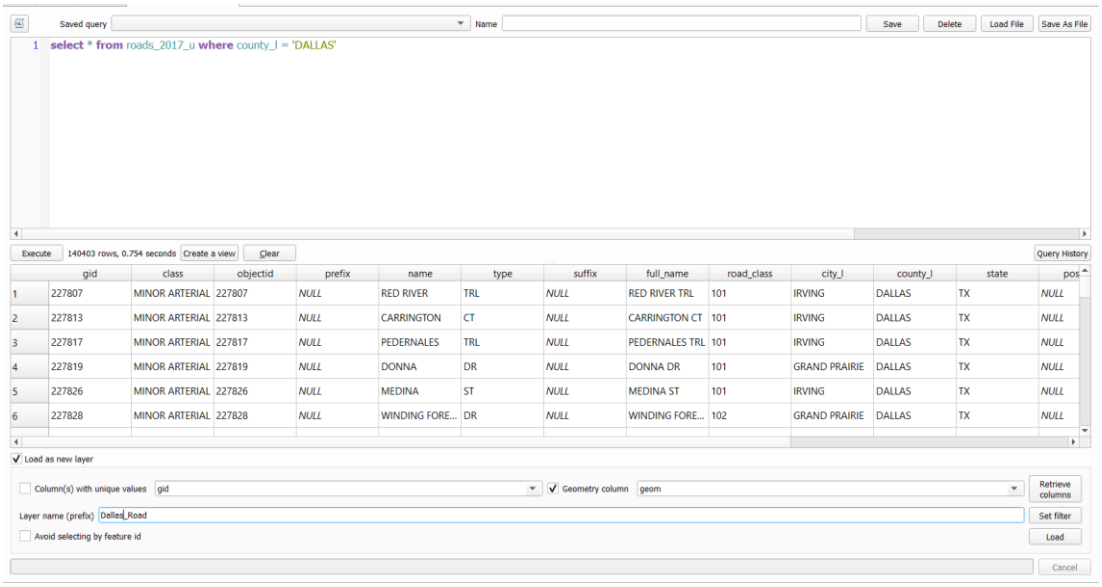
- Firstly, create a layer in POSTGIS by querying it in DB Manager as below:

Query Used: select * from roads_2017_u where county_l = 'TARRANT'



- Then, create a second layer for Dallas as below:

Query Used: select * from roads_2017_u where county_l = 'DALLAS'



- As you can see in Fig 1, there are 3 layers selected i.e. Dallas_Roads, Tarrent_Road & roads_2017_u (which holds data for all roads)
- Finally, to change the color as per our requirement. We got the properties of the layers

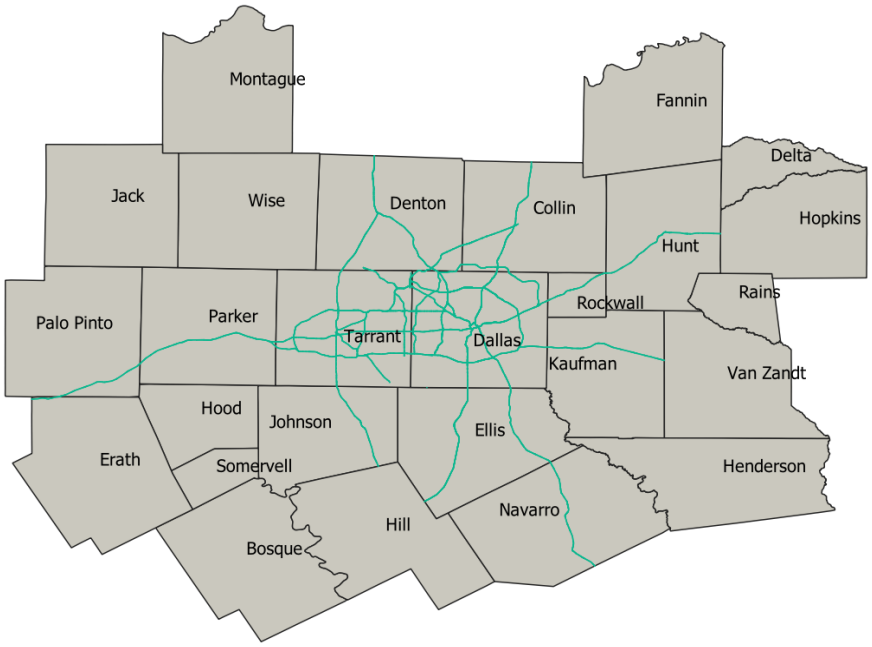
i.e. Properties → Symbology → Color → “We chose our required color “.

In our case it is Red, Black & Yellow.

- Then Apply for the color change.

Query 2: Display the roads that are in the class: ’PRIMARY HIGHWAY’ with the county in the

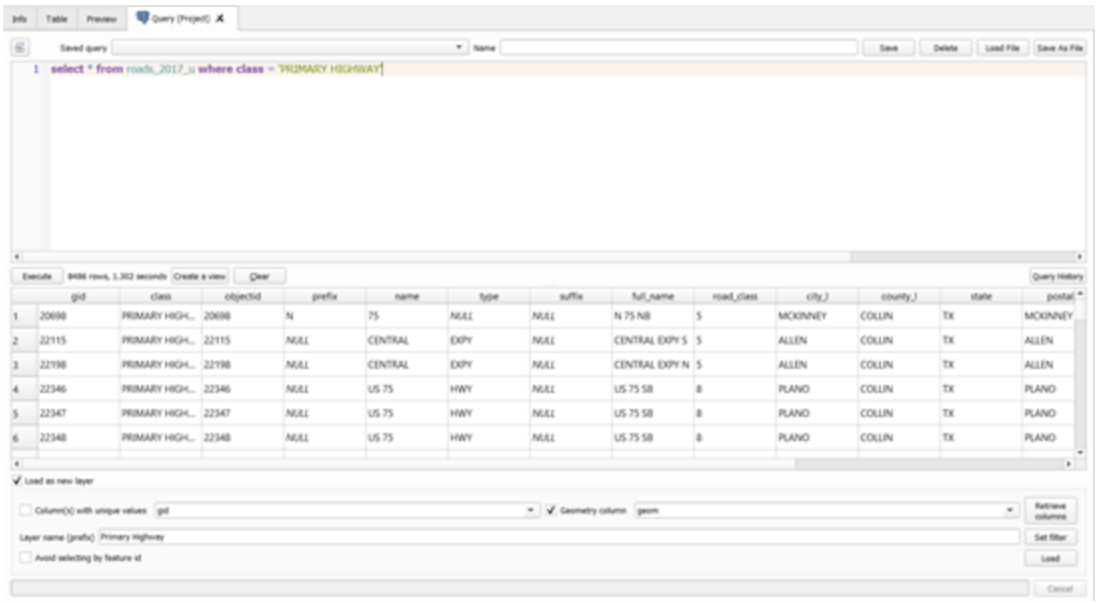
Background.



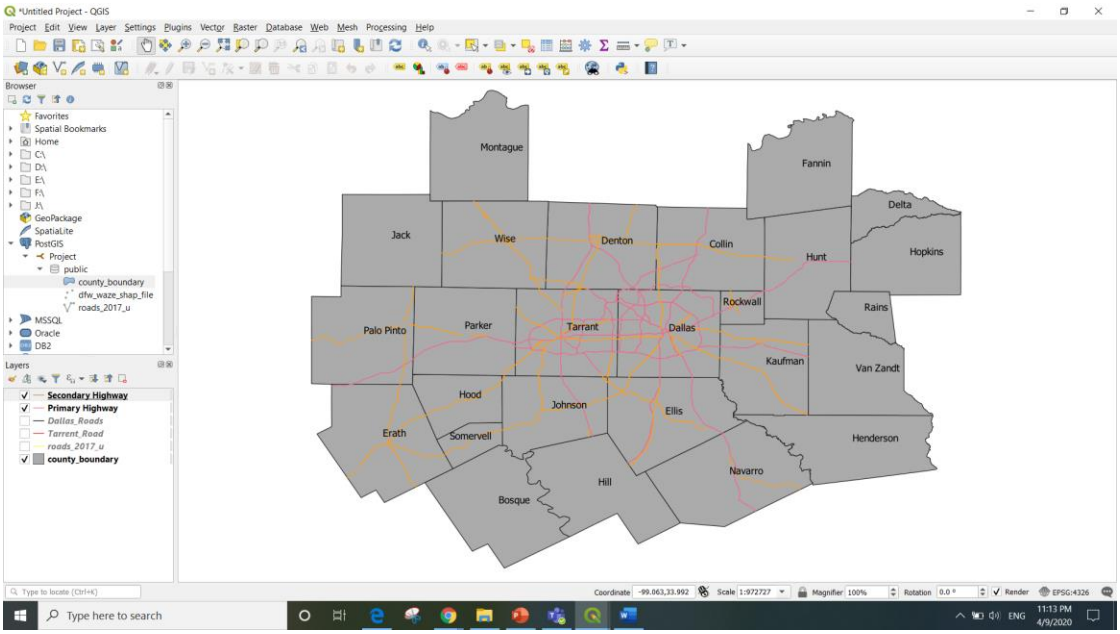
Steps followed to display the above Map in PostGIS:

- Firstly, we add the County layer and added the county name via Properties->Labels->value: CNTY_NM. (Adjust the font size – appropriately)
- The we use the following query to get appropriate point location: Query is: Select * from roads_2017_u where class = ‘PRIMARY HIGHWAY

Query used: Select * from roads_2017_u where class = ‘PRIMARY HIGHWAY’



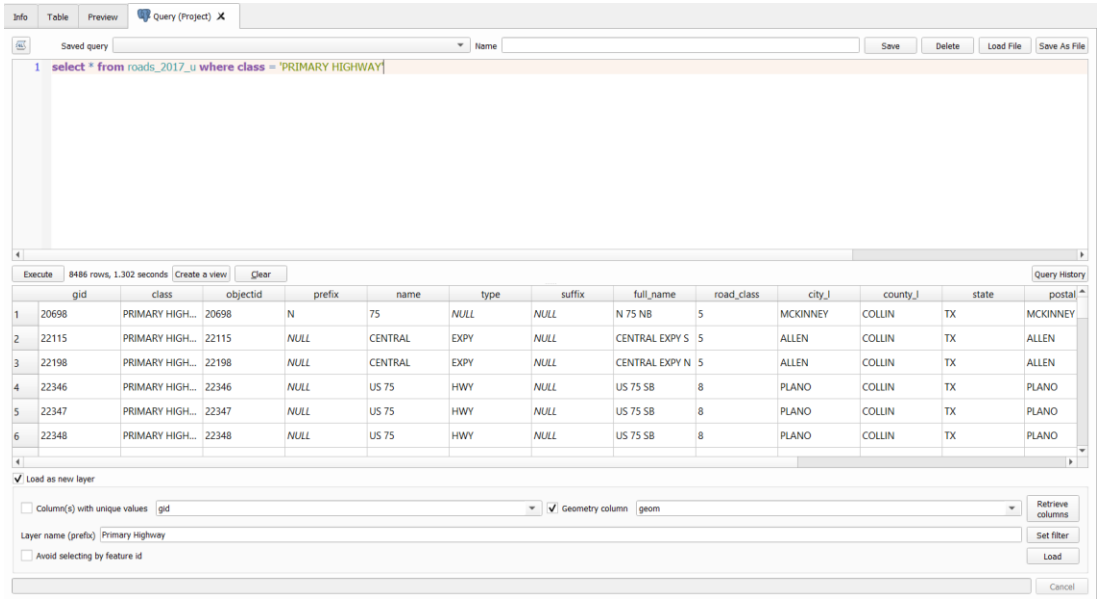
Query 3: Display the roads only with class ‘PRIMARY HIGHWAY’ and class ‘SECONDARY HIGHWAY’. Each class should be in a different color with the county in the background.



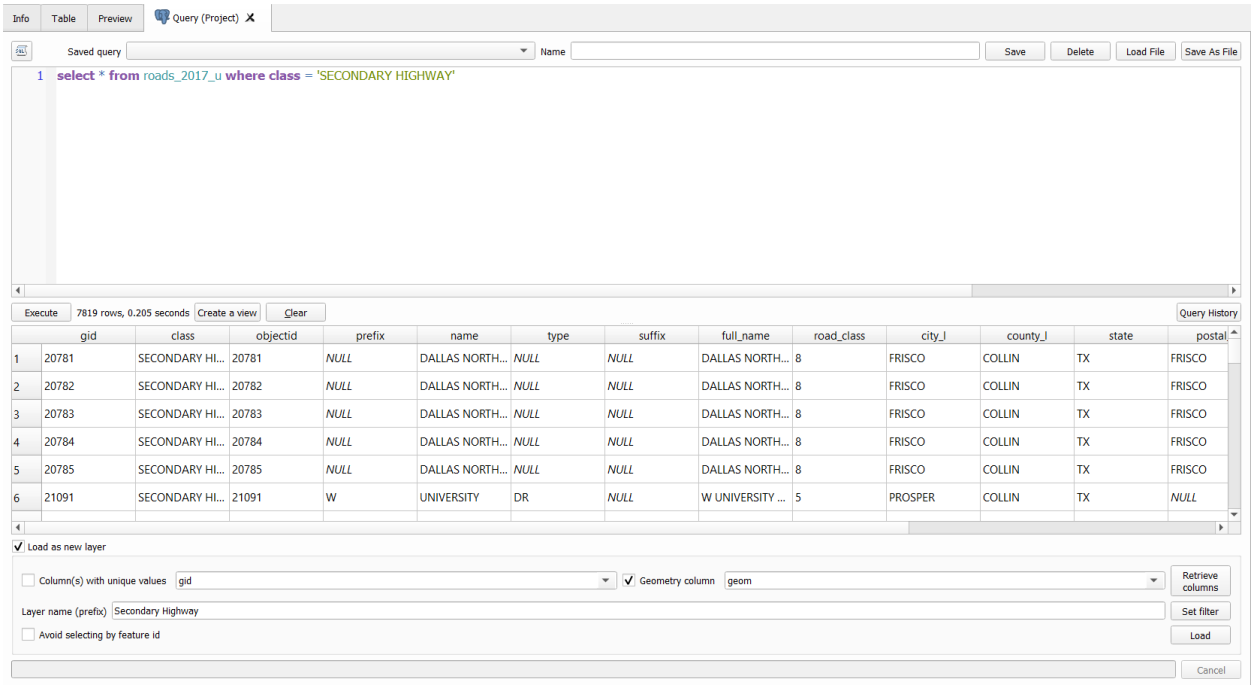
Steps followed to display the above Map in PostGIS:

- Firstly, we add the County layer and added the county name via Properties->Labels->value: CNTY_NM.

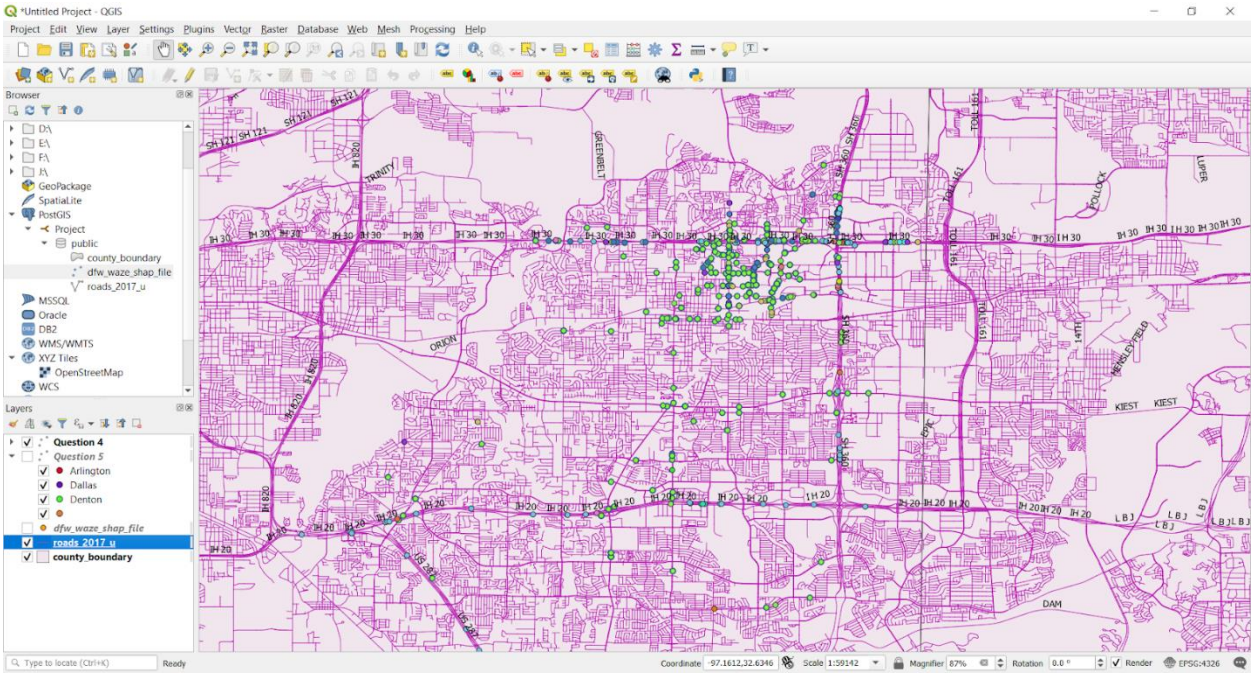
Query used: Select * from roads_2017_u where class = ‘PRIMARY HIGHWAY’



- Then, we create a layer to classify Secondary Highway, which is colored in orange.
- **Query used:** Select * from roads_2017_u where class = ‘SECONDARY HIGHWAY’


Info
Table
Preview
Query (Project)
Saved query
Name
Save
Delete
Load File
Save As File
1 select * from roads_2017_u where class = 'SECONDARY HIGHWAY'
Execute
7819 rows, 0.205 seconds
Create a view
Clear
Query History
gid class objectid prefix name type suffix full_name road_class city_l county_l state postal
1 20781 SECONDARY HI... 20781 NULL DALLAS NORTH... NULL NULL DALLAS NORTH... 8 FRISCO COLLIN TX FRISCO
2 20782 SECONDARY HI... 20782 NULL DALLAS NORTH... NULL NULL DALLAS NORTH... 8 FRISCO COLLIN TX FRISCO
3 20783 SECONDARY HI... 20783 NULL DALLAS NORTH... NULL NULL DALLAS NORTH... 8 FRISCO COLLIN TX FRISCO
4 20784 SECONDARY HI... 20784 NULL DALLAS NORTH... NULL NULL DALLAS NORTH... 8 FRISCO COLLIN TX FRISCO
5 20785 SECONDARY HI... 20785 NULL DALLAS NORTH... NULL NULL DALLAS NORTH... 8 FRISCO COLLIN TX FRISCO
6 21091 SECONDARY HI... 21091 W UNIVERSITY DR NULL W UNIVERSITY ... 5 PROSPER COLLIN TX NULL
Load as new layer
Column(s) with unique values
gid
Geometry column
geom
Retrieve columns
Layer name (prefix)
Secondary Highway
Set filter
Avoid selecting by feature id
Load
Cancel

Query 4: Display all the events (From DFW_WAZE) that happened in Arlington form 6 am to 12 pm on 12/1/2018. Each event should be displayed with different color and the background should be the roads.



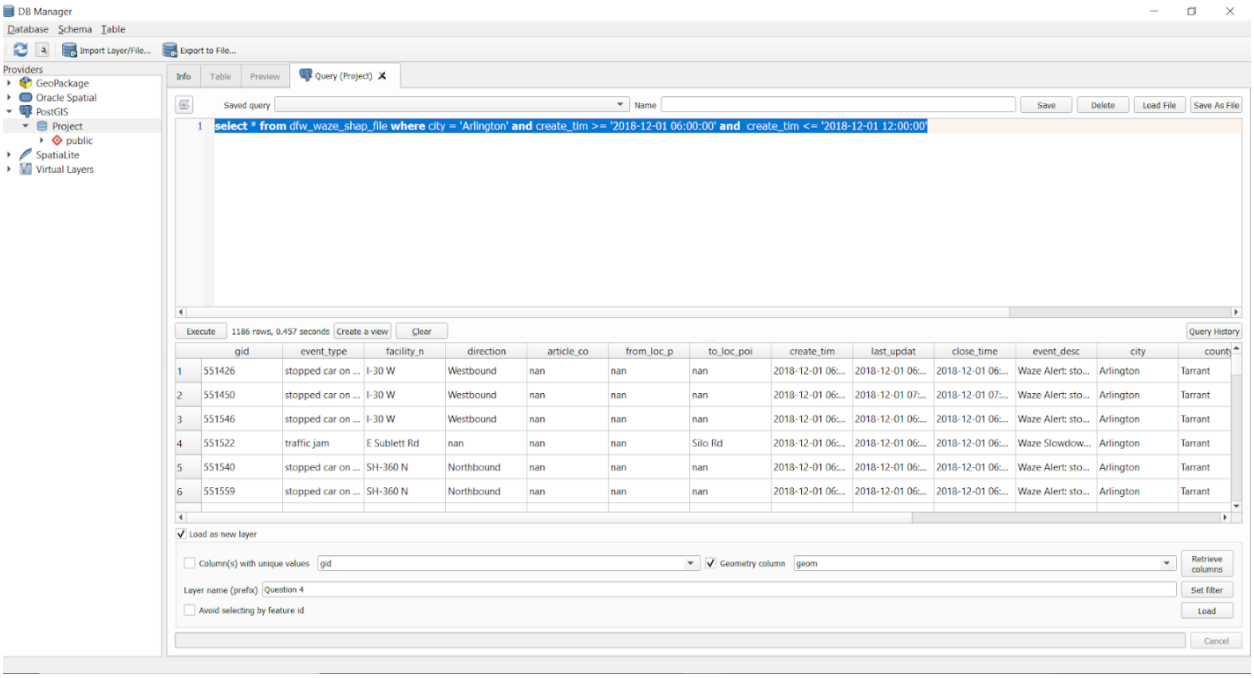
Steps followed to display the above Map in PostGIS:

· Firstly, we add the County layer and add the county name via Properties->Labels->value: CNTY_NM. (Adjust the font size – appropriately)

· Then, add the Road layer on top of it and change the color to white via Properties à Symbology à Color.

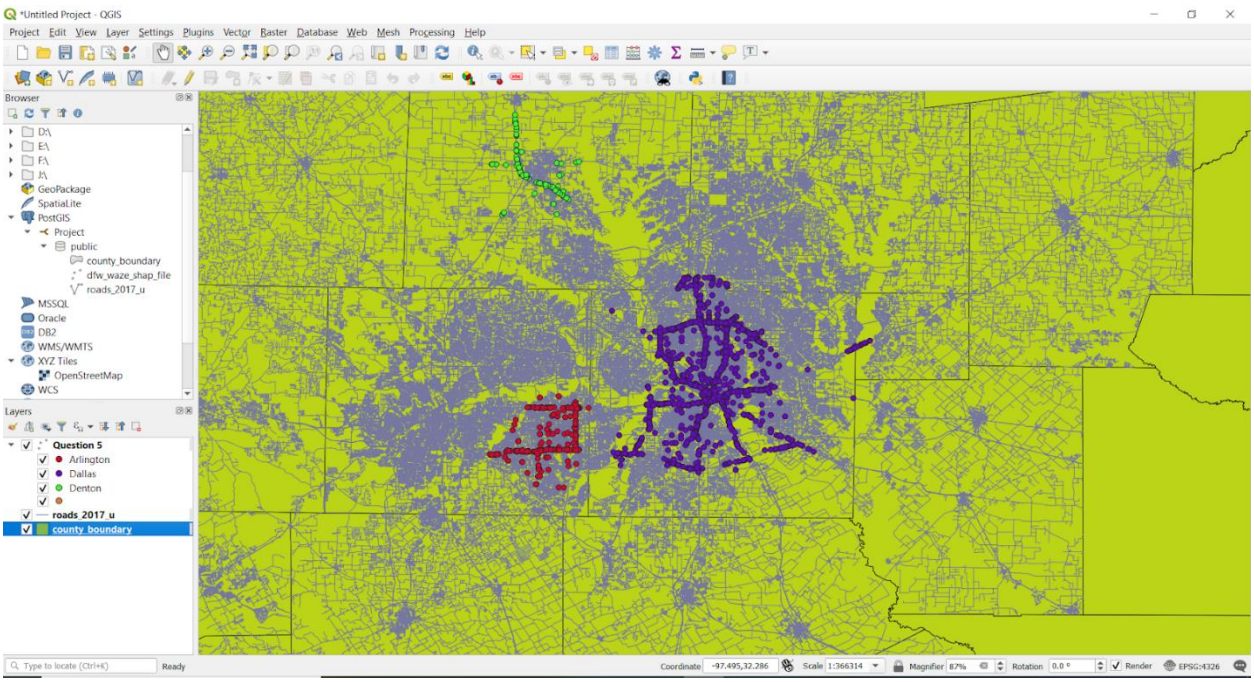
- The we use the following query to get appropriate point location:

  select * from dfw_waze_shap_file where city = 'Arlington' and create_tim >= '2018-12-01 06:00:00' and create_tim <= '2018-12-01 12:00:00'



Then, for different colors to seperate the cities, Layer: Properties -->Symbology → Categorized → Value:event_type → Change the color as per our requirement

Query 5: Display the accidents that happened in Arlington, Dallas, Denton. Each city event in a different color and the background is the roads and county



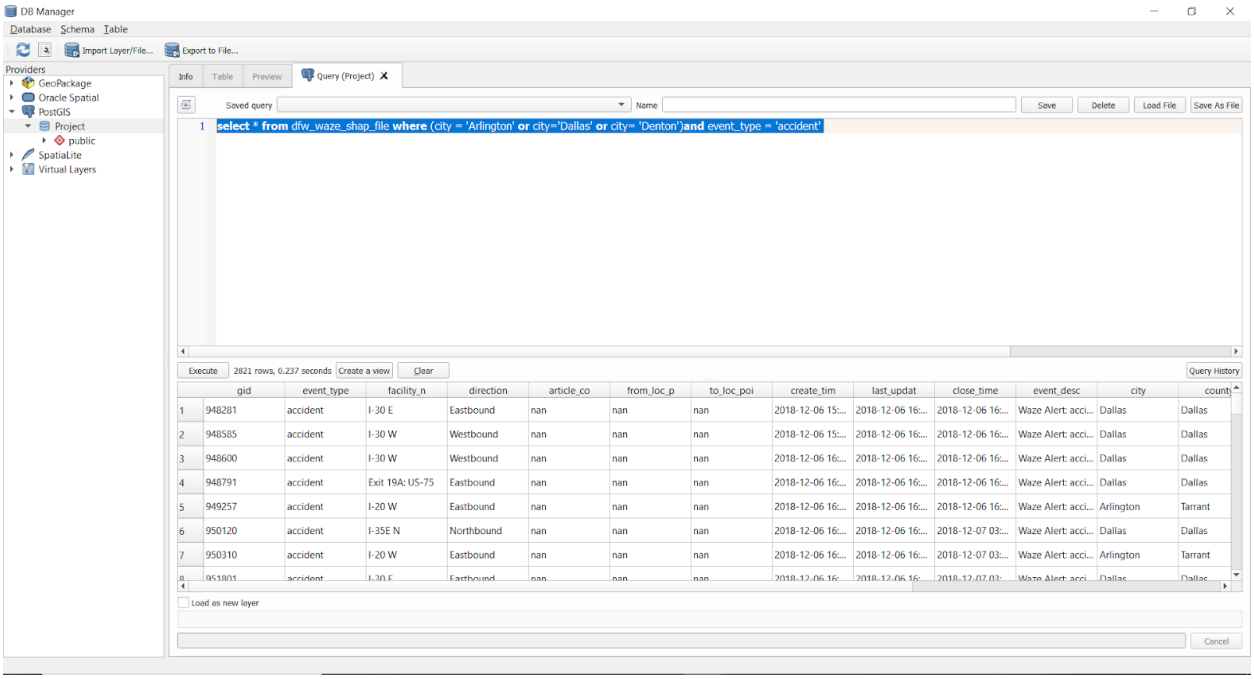
Steps followed to display the above Map in PostGIS:

· Firstly, we add the County layer and add the county name via Properties->Labels->value: CNTY_NM. (Adjust the font size – appropriately)

· Then, add the Road layer on top of it and change the color to white via Properties à Symbology à Color.

- The we use the following query to get appropriate point location:

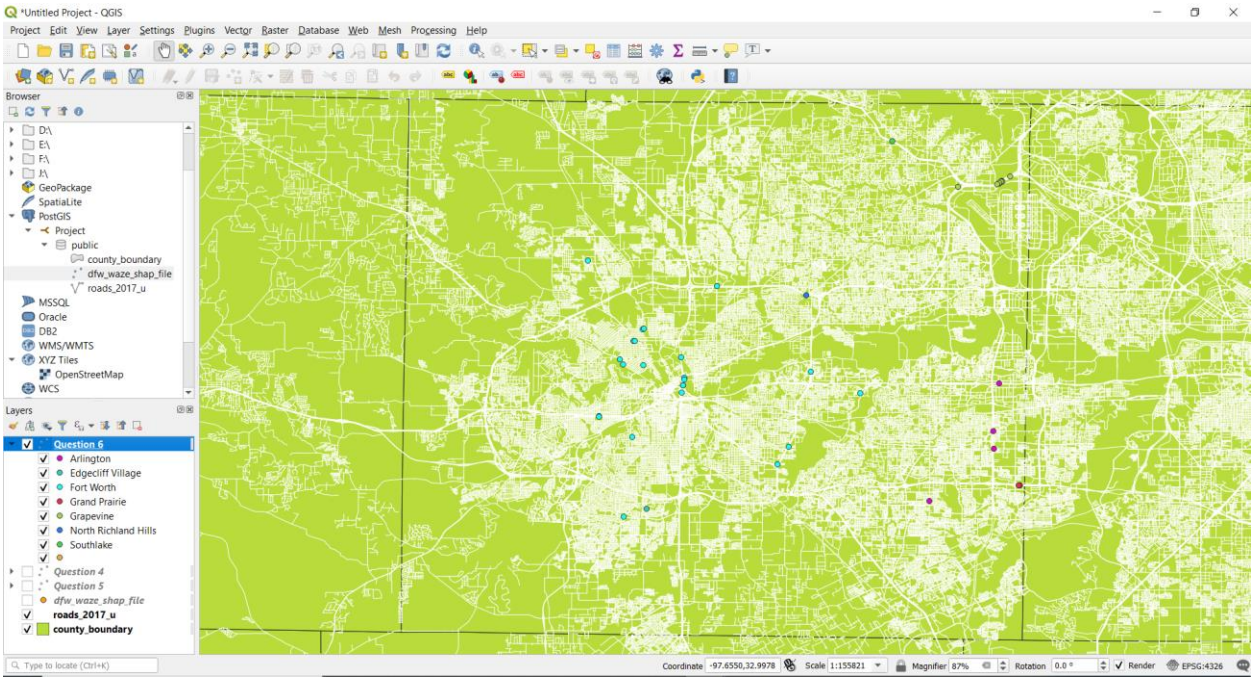
select * from dfw_waze_shap_file where (city = 'Arlington' or city='Dallas' or city= 'Denton')and event_type = 'accident'



	gid	event_type	facility_n	direction	article_co	from_loc_p	to_loc_poi	create_tim	last_updat	close_time	event_desc	city	county
1	948281	accident	I-30 E	Eastbound	nan	nan	nan	2018-12-06 15:...	2018-12-06 16:...	2018-12-06 16:...	Waze Alert: acci...	Dallas	Dallas
2	948585	accident	I-30 W	Westbound	nan	nan	nan	2018-12-06 15:...	2018-12-06 16:...	2018-12-06 16:...	Waze Alert: acci...	Dallas	Dallas
3	948600	accident	I-30 W	Westbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-06 16:...	Waze Alert: acci...	Dallas	Dallas
4	948791	accident	Exit 19A: US-75	Eastbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-06 16:...	Waze Alert: acci...	Dallas	Dallas
5	949257	accident	I-20 W	Eastbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-06 16:...	Waze Alert: acci...	Arlington	Tarrant
6	950120	accident	I-35E N	Northbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-07 03:...	Waze Alert: acci...	Dallas	Dallas
7	950310	accident	I-20 W	Eastbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-07 03:...	Waze Alert: acci...	Arlington	Tarrant
8	951801	accident	I-30 E	Eastbound	nan	nan	nan	2018-12-06 16:...	2018-12-06 16:...	2018-12-07 03:...	Waze Alert: acci...	Dallas	Dallas

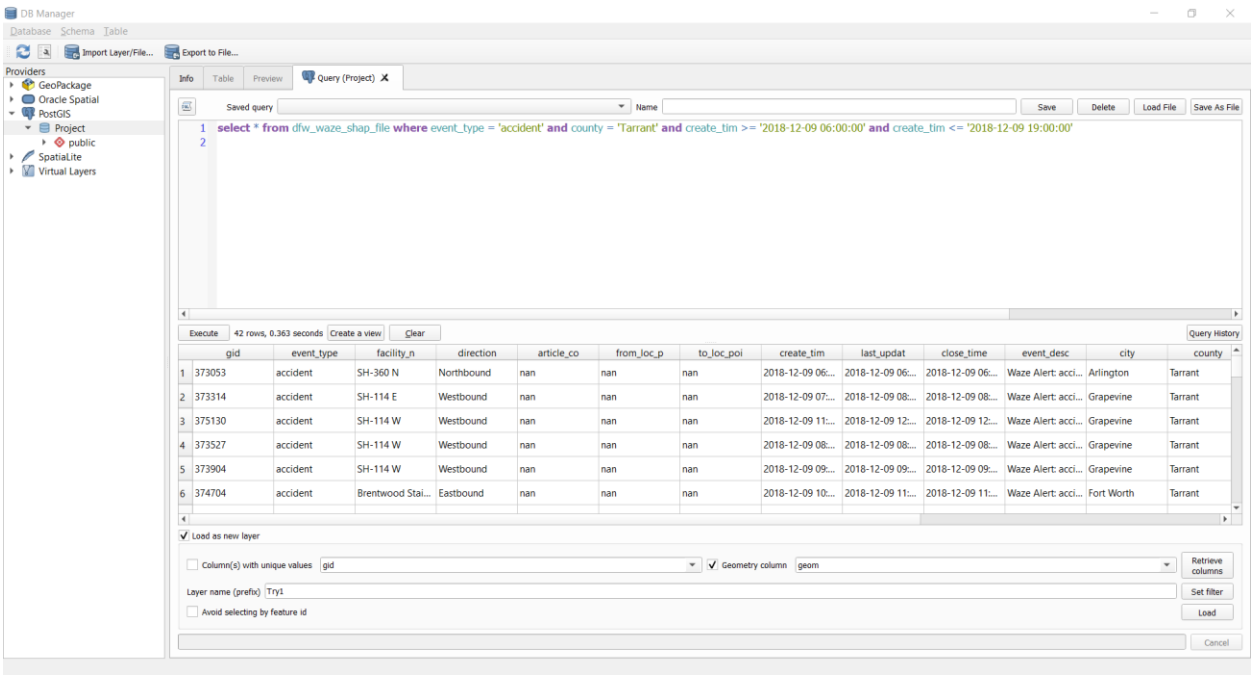
Then, for different colors to seperate the cities, Layer: Properties -->Symbology → Categorized → Value:City → Change the color as per our requirement.

Query 6: Display the event type “accident” that happened in Tarrant county on 12/09/2018 between 6:00 and 19:00 where each city accidents are displayed with different color. Roads and counties need to be in the background.



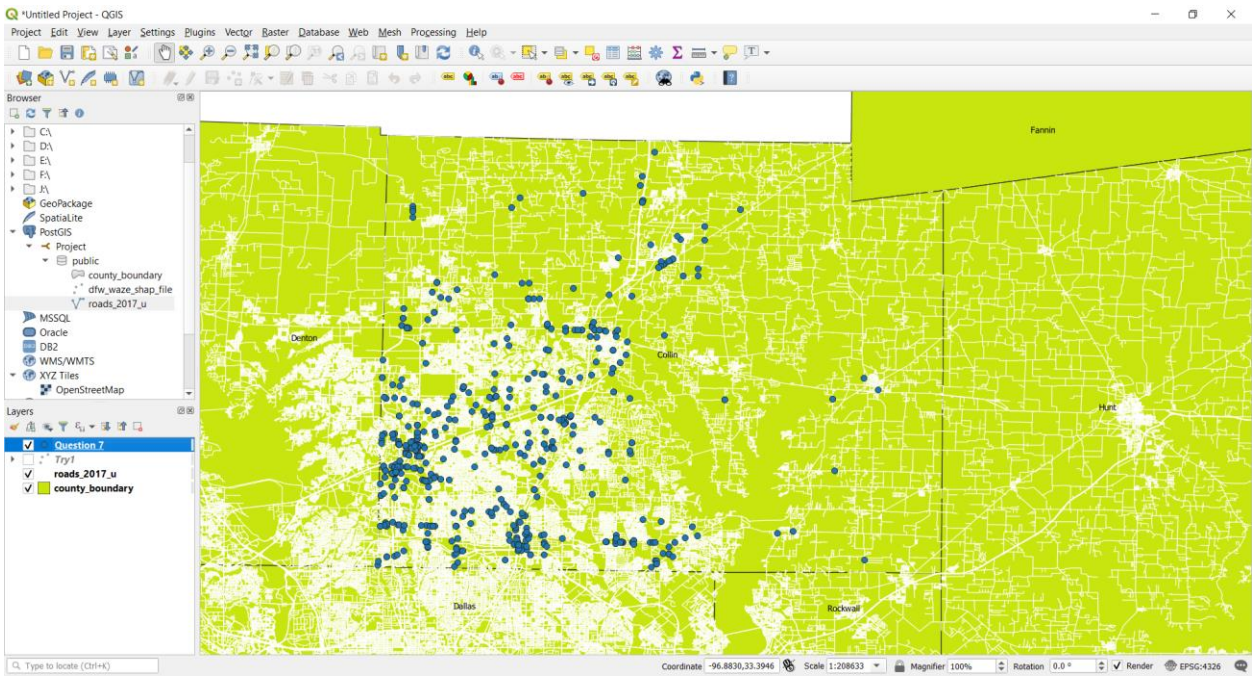
Steps followed to display the above Map in PostGIS:

- Firstly, we add the County layer and added the county name via Properties->Labels->value: CNTY_NM. (Adjust the font size – appropriately)
- Then, add the Road layer on top of it and change the color to white via Properties → Symbology → Color.
- The we use the following query to get appropriate point location: Query is: select * from dfw_waze_shap_file where event_type = 'accident' and county = 'Tarrant' and create_tim >= '2018-12-09 06:00:00' and create_tim <= '2018-12-09 19:00:00'.



- **To give different colours to the points:**
  Layer→Properties→Symbology → Categorized →Classify →Apply.
- We will receive the final output.

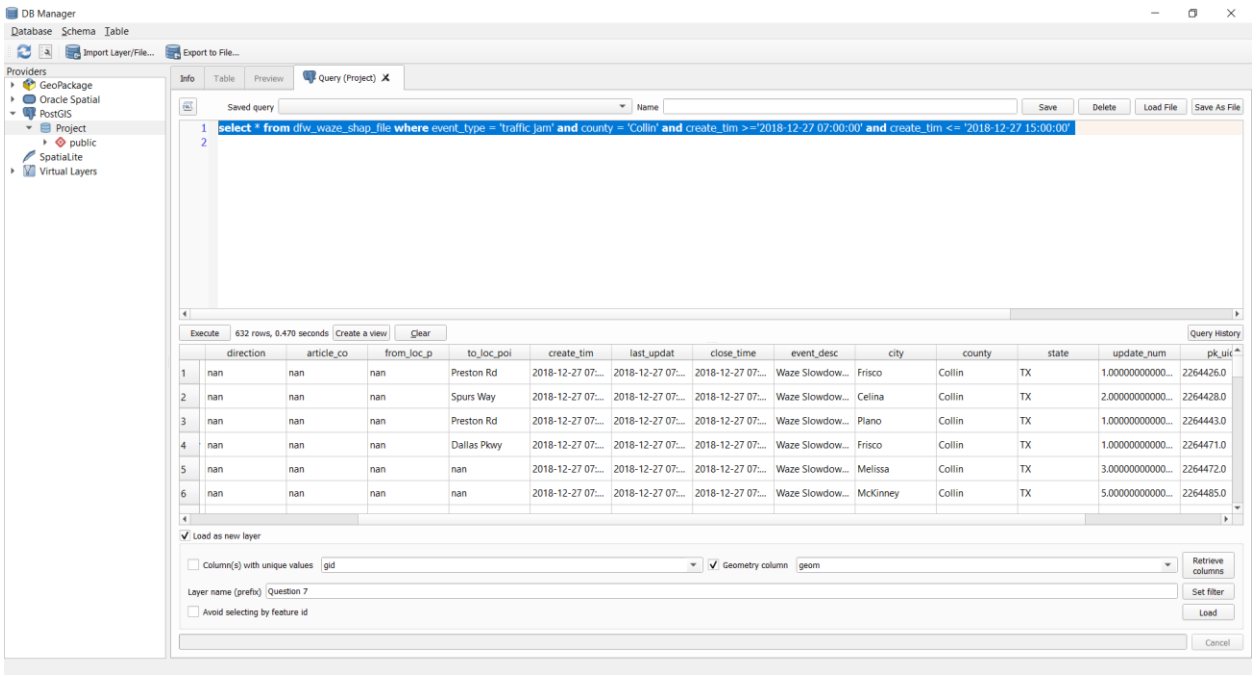
Query 7: Display the “traffic jam” in Collin county on 12/27/2018 between 7:00:00 and 15:00:00 and the background is the roads with county



Steps followed to display the above Map in PostGIS:

- Firstly, we add the County layer and added the county name via Properties->Labels->value: CNTY_NM. (Adjust the font size – appropriately)
- Then, add the Road layer on top of it and change the color to white via Properties → Symbology → Color.
- The we use the following query to get appropriate point location:

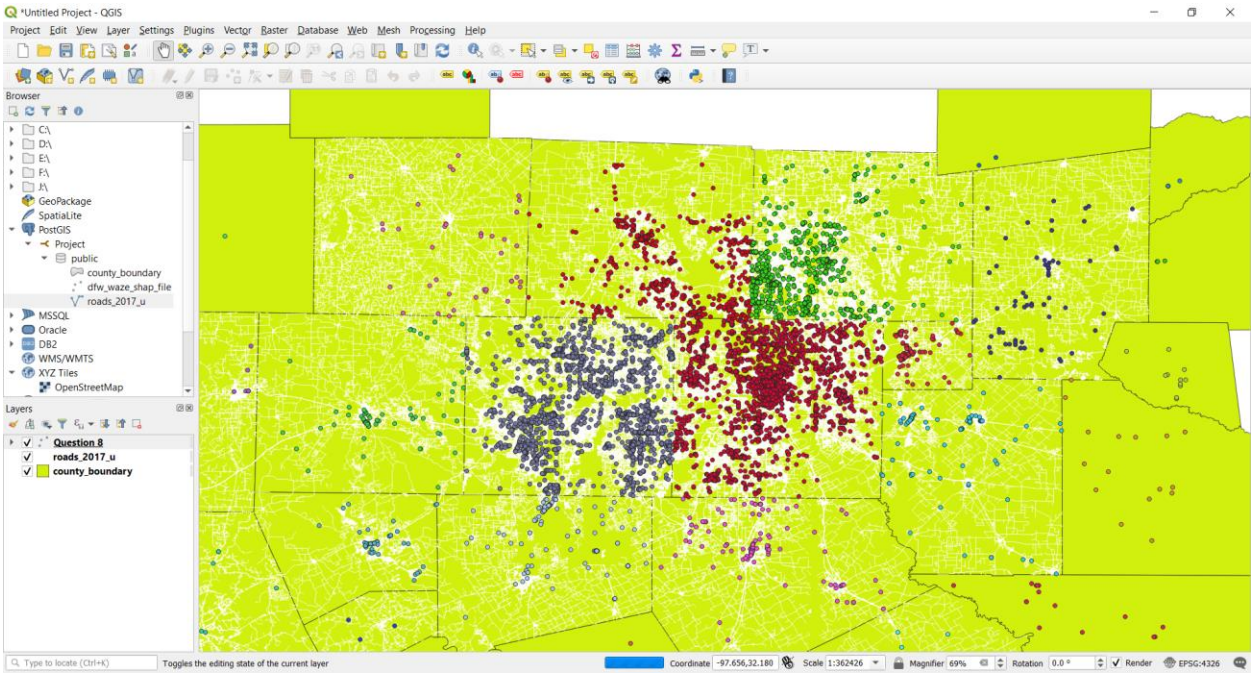
select * from dfw_waze_shap_file where event_type = 'traffic jam' and county = 'Collin' and create_tim >='2018-12-27 07:00:00' and create_tim <= '2018-12-27 15:00:00'



Query 8: For each county, display the event type ‘traffic jam’ on 12/24/2018. Each county with different color.

Steps followed to display the below Map in PostGIS:

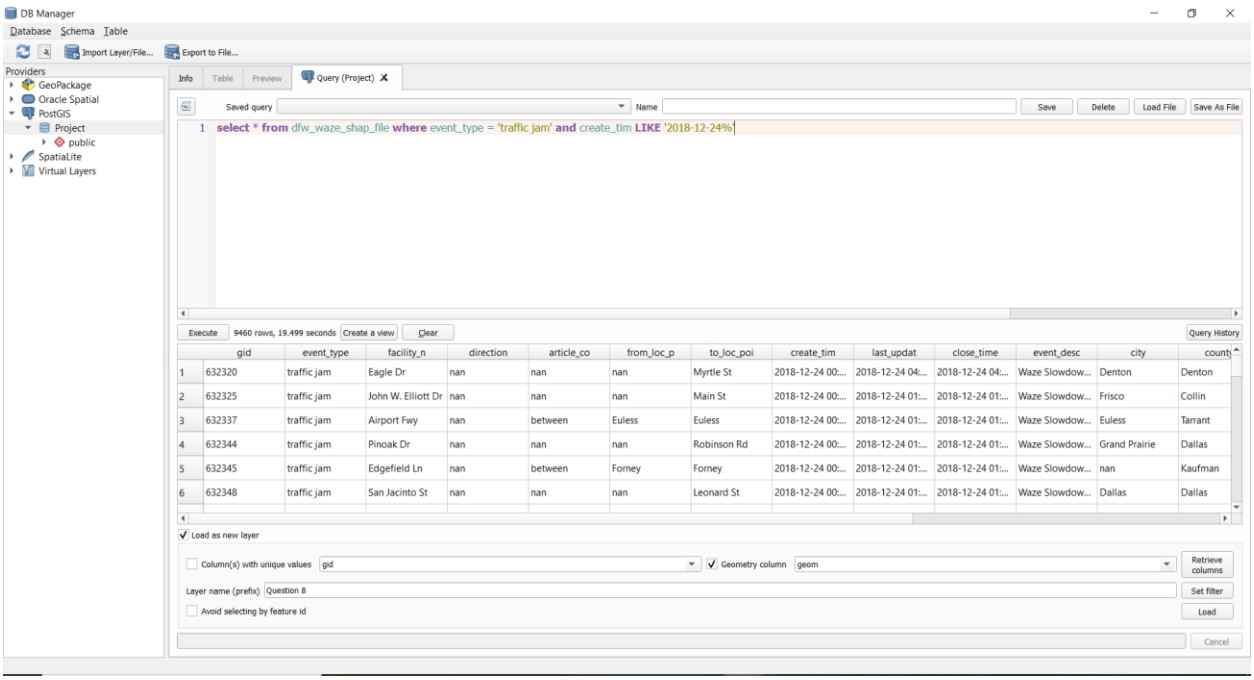
- Similar to previous queries follow initial 2 steps to get county and Road layer.
- Then we use the following query to get appropriate point location:
  select * from dfw_waze_shap_file where event_type = 'traffic jam' and create_tim LIKE '2018-12-24%'
  (or)
  select * from dfw_waze_shap_file where event_type = 'traffic jam' and create_tim >='2018-12-24 00:00:00' and create_tim <='2018-12-24 23:59:59'



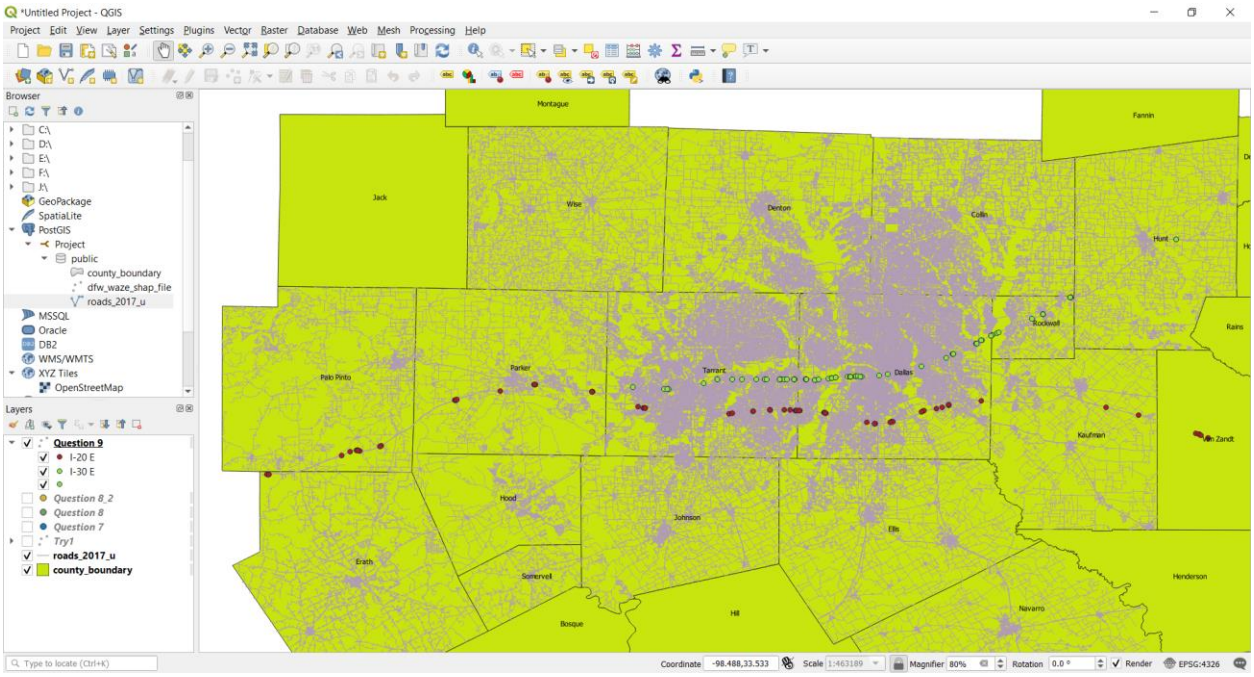
- Then, go to properties of the developed Layer, Symbology → Categorized → Value: County
  Give Apply. This will help us to produce different color for each county.

The DB SQL is:

- select * from dfw_waze_shap_file where event_type = 'traffic jam' and create_tim LIKE '2018-12-24%'

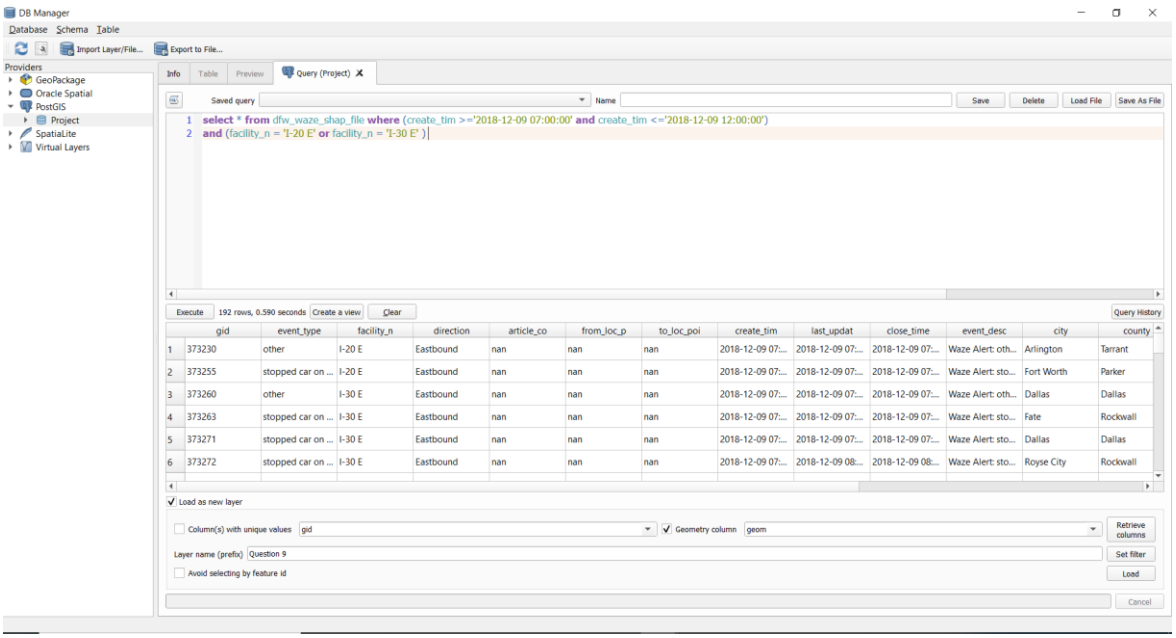


Query 9: Display all the events on the road ‘I-20 E’ and ‘I-30 E’ on 12/9/2018 from 9 am to 12 pm. Events on ‘I-20 E’ should be in different col(than event in ‘I-30 E’.



Steps followed to display the above Map in PostGIS:

- Similar to previous queries follow initial 2 steps to get county and Road layer.
- Then we use the following query to get appropriate point location: select * from dfw_waze_shap_file where (create_tim >='2018-12-09 07:00:00' and create_tim <='2018-12-09 12:00:00') and (facility_n = 'I-20 E' or facility_n = 'I-30 E')



- Then, go to properties of the developed Layer, Symbology → Categorized → Value: facility_n, Give Apply. This will help us to produce different color for I-20E & I-30 E.