Using Carto to Map Broadband Service Providers in New York City

Scope:

The Scope of this project is to map all the buildings in New York City with the list and details of Internet Service provider servicing the locality.

Background:

The FCC has a National Broadband map that has a very broad outline of the regions that are connected to the broadband. (https://www.broadbandmap.gov/technology) This map has details mainly pertaining to the Broadband infrastructure available in the US but not on the availability of services in a region. To address this deficit, The Ney York City Mayors Office of Technology and Innovation has restructured to form a dedicated team – "Truth of Broadband" that is responsible to collect and maintain the database of complete list of Internet service providers servicing the localities within the New York City. They plan to do so by creating an interactive map that would be available for free open access to the public.

Objective:

The map that the team plans to create should be interactive and should list out the list of ISP when the user zooms and scrolls over the desired neighborhood. Apart from the service providers this map may also need to display the details of the service providers including their contact information, Service Reach, Reviews and Ratings, Overall Years of Service, Years of service in the neighborhood, Signal Strength, Percentage of users enrolled in the service in that region, Highest Speed, Average Speed, Tariff Plans etc.

Solution:

To map the details pertaining to the ISP's in the region, the database of the list of operators in the region and their service parameters must be traced. Once the database is obtained, it is possible to populate the data to a software that is capable of plotting the spatial data from the coordinates.

There are several software's that would work with GIS mapping of the service. ArcGIS by ESRI is the market leader and has been known for their reliability and the wide reputation. The other few software's that function on similar lines are QGIS, Grass GIS Etc. These software's require extensive infrastructure and much detailed GIS mapping, coding skills and domain knowledge. An easier alternative to these software's is Carto. Carto is an Open Source tool (Software as a Service Platform – SaaS) that enables user to use several APIs to build advanced, dynamic geospatial datasets and scalable maps for specific applications. The main advantage of going with a software like Carto is the inbuilt data analysis feature that would help in analyzing the ever updating ISP and user data values.

Carto would be a very useful tools for the users as it offers the flexibility of wide filtering over the available datasets value and easy drag and drop functionalities for visualizing the required parameters. The best feature that the carto has to offer is the easy build/update of the visualization. The Geographic base map layers can be uploaded into the carto with ease and the datasets could just be dragged and dropped on to the map layer for them to take the new dimension.(https://carto.com)