What ​is ​the ​problem ​you ​want ​to ​solve?

NYC forestry department is responsible for maintaining tree points in City Of New York. Tree maintenance not only includes planting, periodic inspection and maintenance but also preventing and responding hazards caused dues to trees. Variety of work related to maintenance make it complex to plan like some service request like fallen tree or root impacting sewer line require urgent attention while requests like pruning at traffic signal or utility line are not urgent but required to prevent accidents.

Using data from NYC forestry department, we will explore type of service request received related to maintenance of Tree points, priority, action taken to predict response time in relationship with location, weather, time of the year as well as tree geometry.

2. Who ​is ​your ​client ​and ​why ​do ​they ​care ​about ​this ​problem? ​

Potential clients of this analysis include NYC residents, who can better understand how the Forestry Dept. respond and prioritizes service requests in their neighborhood and based on what factors. Local authorities like traffic and sanitation can plan activities based on response from Forestry Dept.

3. What ​data ​are ​you ​going ​to ​use ​for ​this?

​NYC open data has dataset available on Forestry service requests from 2015 to 2017 with around 160,000 requests.

4. In ​brief, ​outline ​your ​approach ​to ​solving ​this ​problem ​(knowing ​that ​this ​might change ​later).

For each request calculate resolution or update time and find relationship with Request type, location attributes like Longitude/Latitude, Postcode, BoroughCode, Time variable like Month, Year, Season and Tree Geometry variables. There are 9 Geometry variable which can impact resolution time.

Create model to predict response time based on input paramters.

5. What ​are ​your ​deliverables? ​Typically, ​this ​would ​include ​code, ​along ​with ​a ​paper and/or ​a ​slide ​deck.

1. Code in R
2. Presentation Deck on overall model
3. Detail writeup on Problem and model.