

Street Trees in NYC

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Project Goal

To visualize multiple features of street trees and their relationship with species, location and street names in NYC.

Data Set

[2015 Street Tree Census](#) is conducted by volunteers and staff organized by NYC Parks & Recreation and partner organizations. In the data set, there are tree data collected includes tree species, diameter and perception of health.

Field	Attribute Description	Type	Range / Values
status	Tree status	C	{Alive, Dead, Stump}
health	Tree health	C	{Good, Fair, Poor, N/A}
spc_latin	Scientific name for species	C	String
spc_common	Common name for species	C	String
address	Address	C	String
boroname	Borough name	C, S	String
boro_ct	Census tract	Q, S	7-digit integer

Analytical Questions and Proxy Tasks

Which neighborhood has the most / least number of trees?

What is the tree density in different locations?

- How many trees (number of records) are there in different zip code / neighborhoods / boroughs?

What are popular tree species in different locations?

- Which species has the most number of records in different zip code / neighborhoods / boroughs?

× What is the distribution of diameter of trees?

× Which tree species is best for planting alongside the street? Is it the most popular species?

- What is the most healthy species? (or other)

× Are there historical changes among 1995, 2005, and 2015?

× Is there a relationship between tree status / health and locations?

- What is the distribution of tree status / health in different zip code / neighborhoods / boroughs?

× Is there a relationship between tree status / health and whether it is along or offset from the curb?

× What are most severe problems for street trees?

× Is there a relationship between tree diameter and locations?

- What is the distribution (medium / mean / min / max) of tree diameter in different zip code / neighborhoods / boroughs?

Does different kind of streets tend to have more or less trees?

- Is there a relationship between street suffixes (e.g. "St" in "Jay St") and number of trees?

Does different kind of streets prefer different tree species?

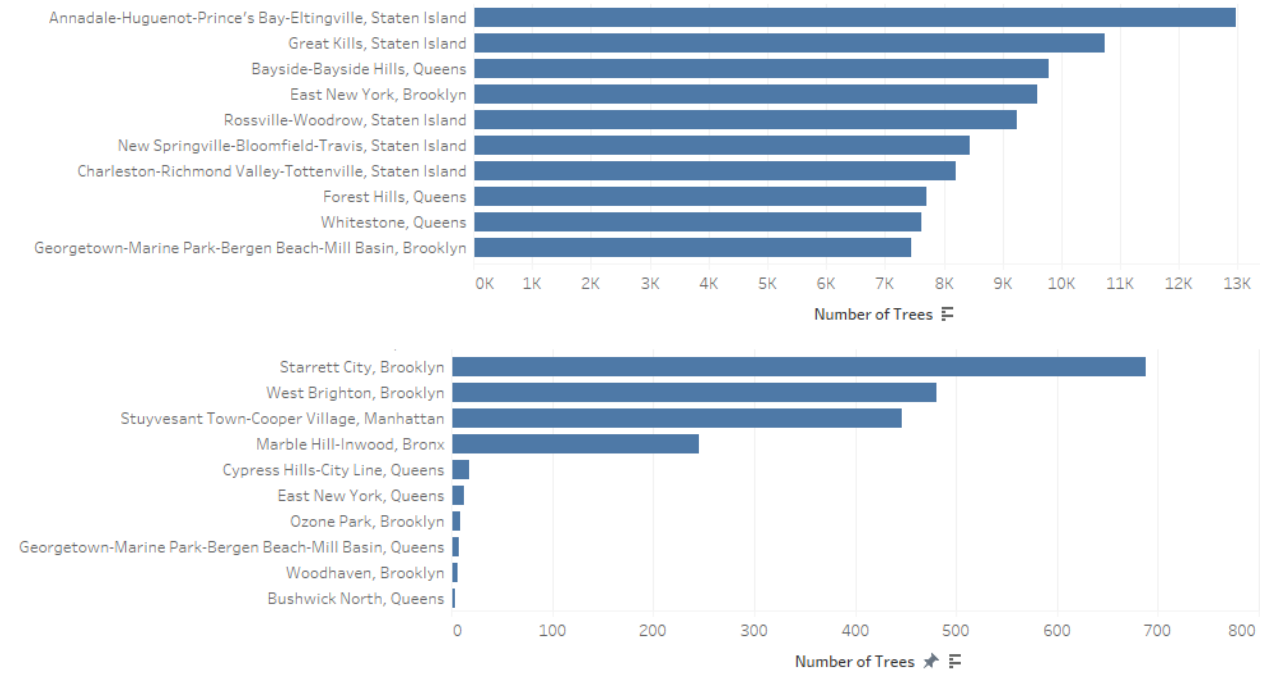
- Is there a relationship between street suffixes and tree species?

* Questions marked with "×" are not used in the following part

Story Design

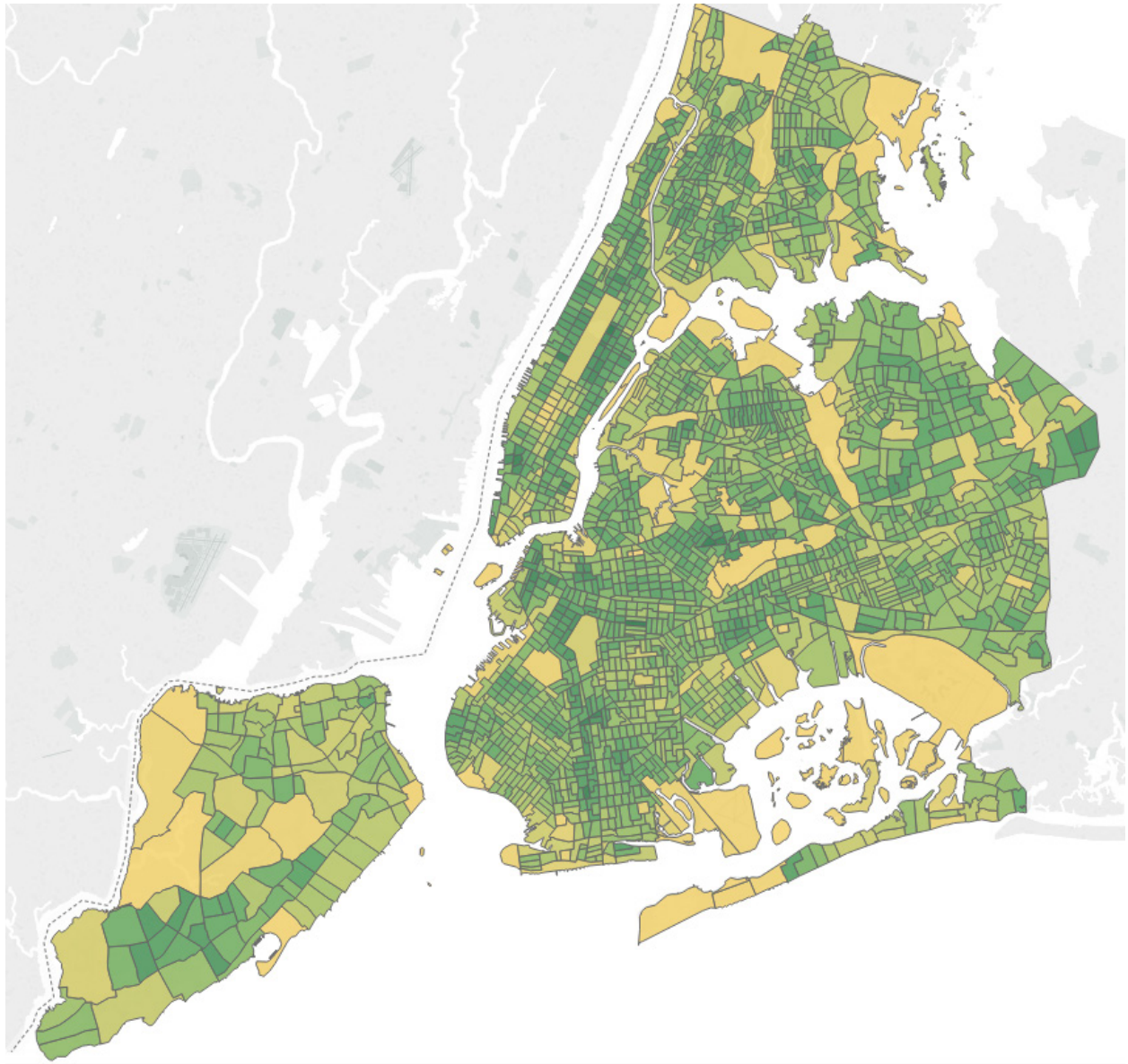
Data Analysis

Which neighborhood has the most / least number of trees?



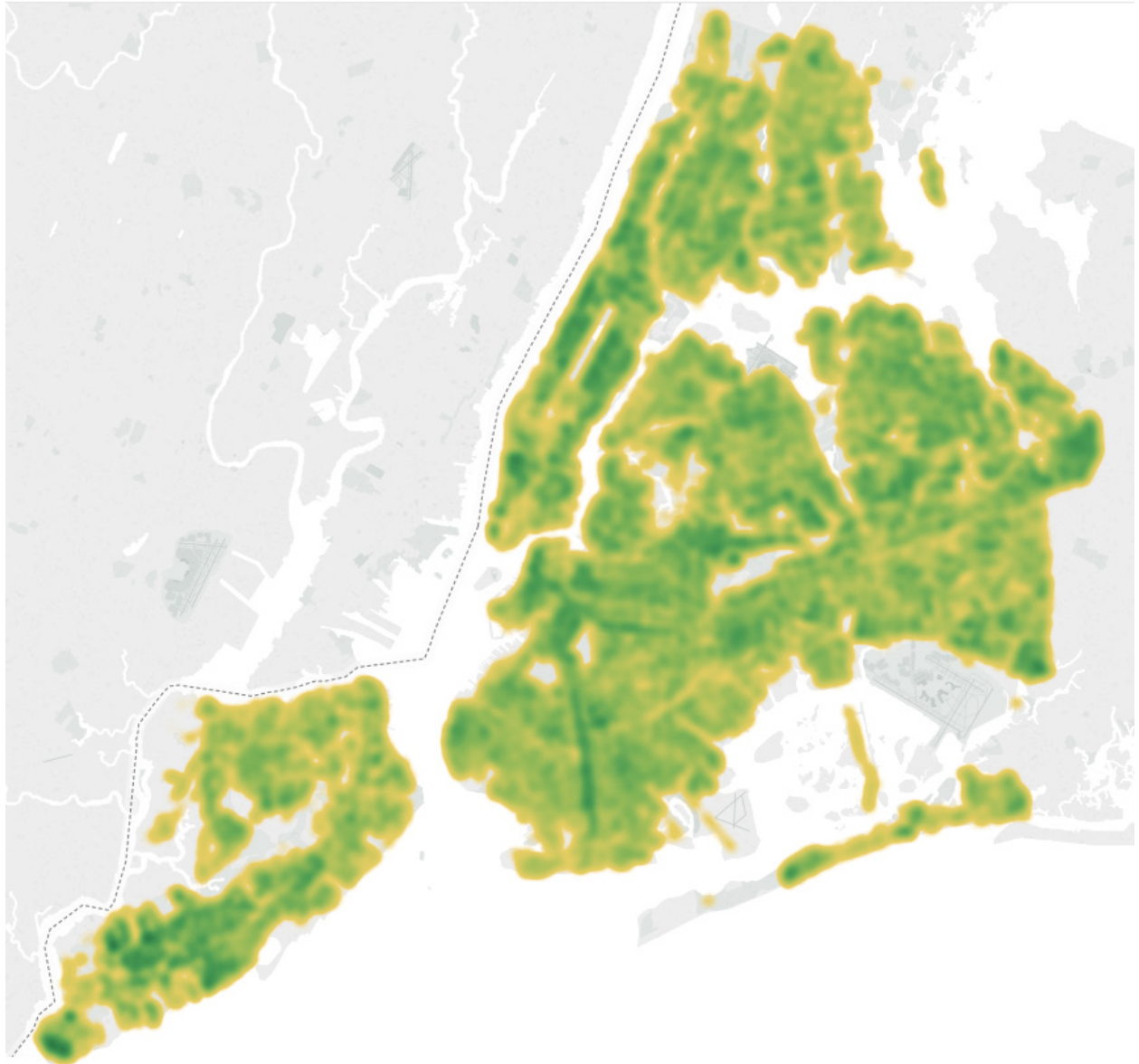
* This question is not instructive and will not be used later.

What is the tree density in different locations?



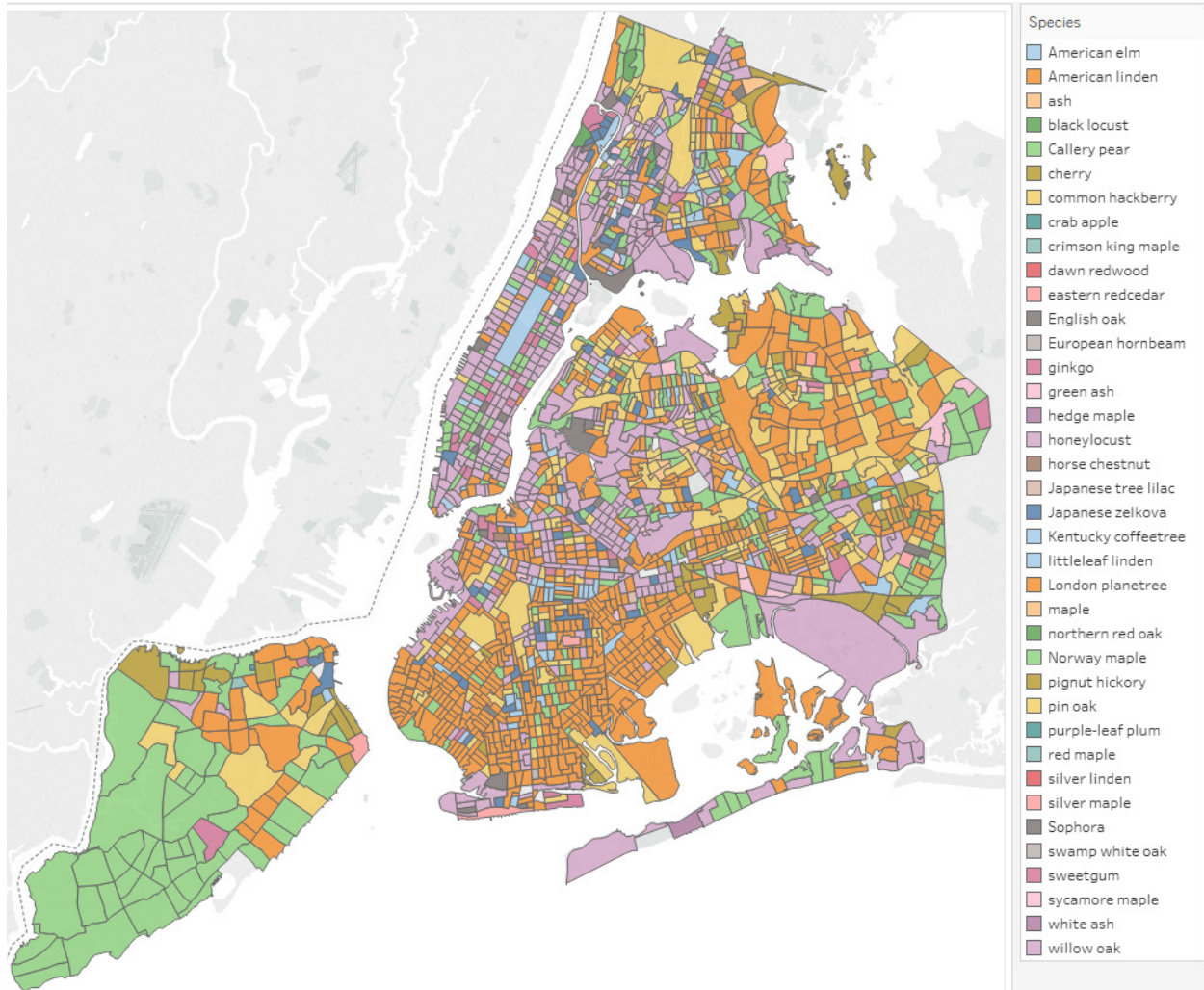
Number of Alive Trees / Area of Tract for each census tract

The census tract is a geographic division used by the U.S. Census. Here we use [2010 Census Tracts](#) data (geoJson) for the shape of census tract.

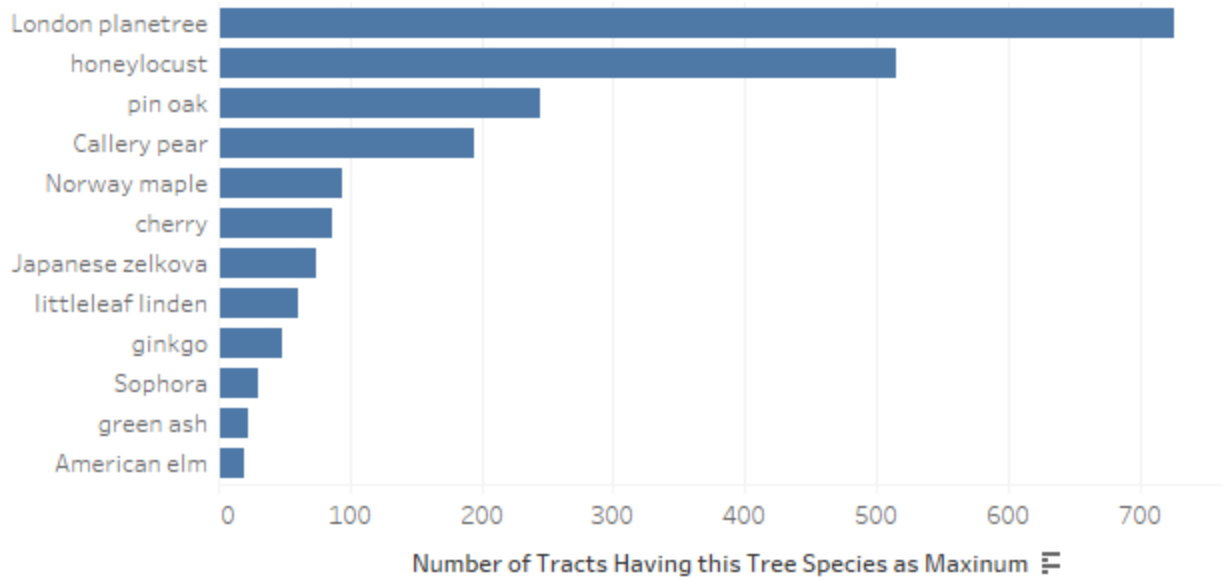


Density of Alive Trees

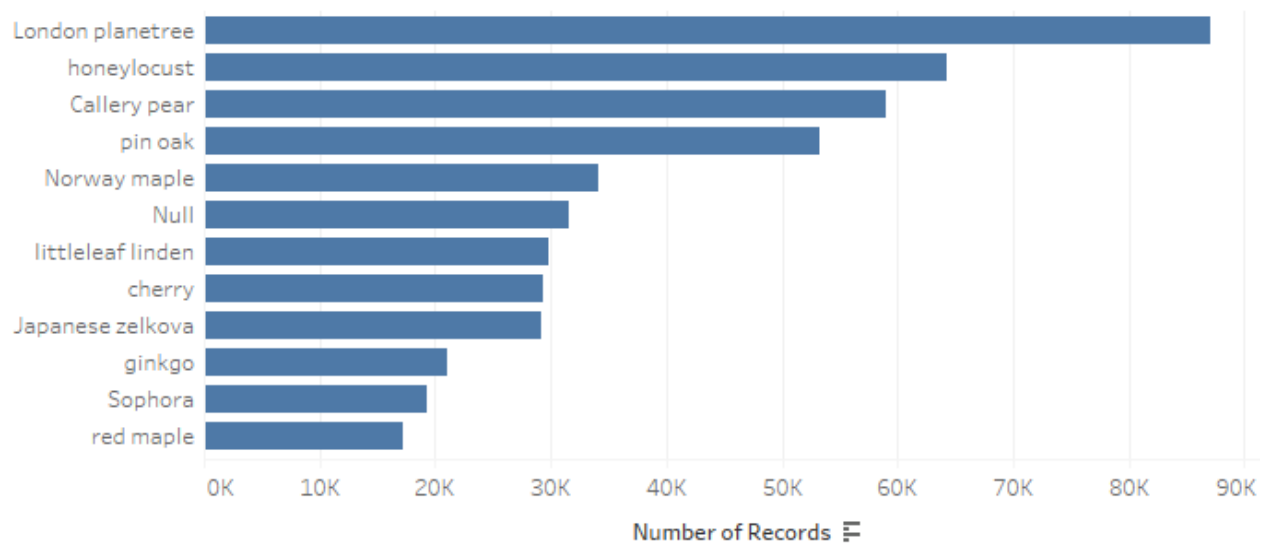
What are popular tree species in different locations?



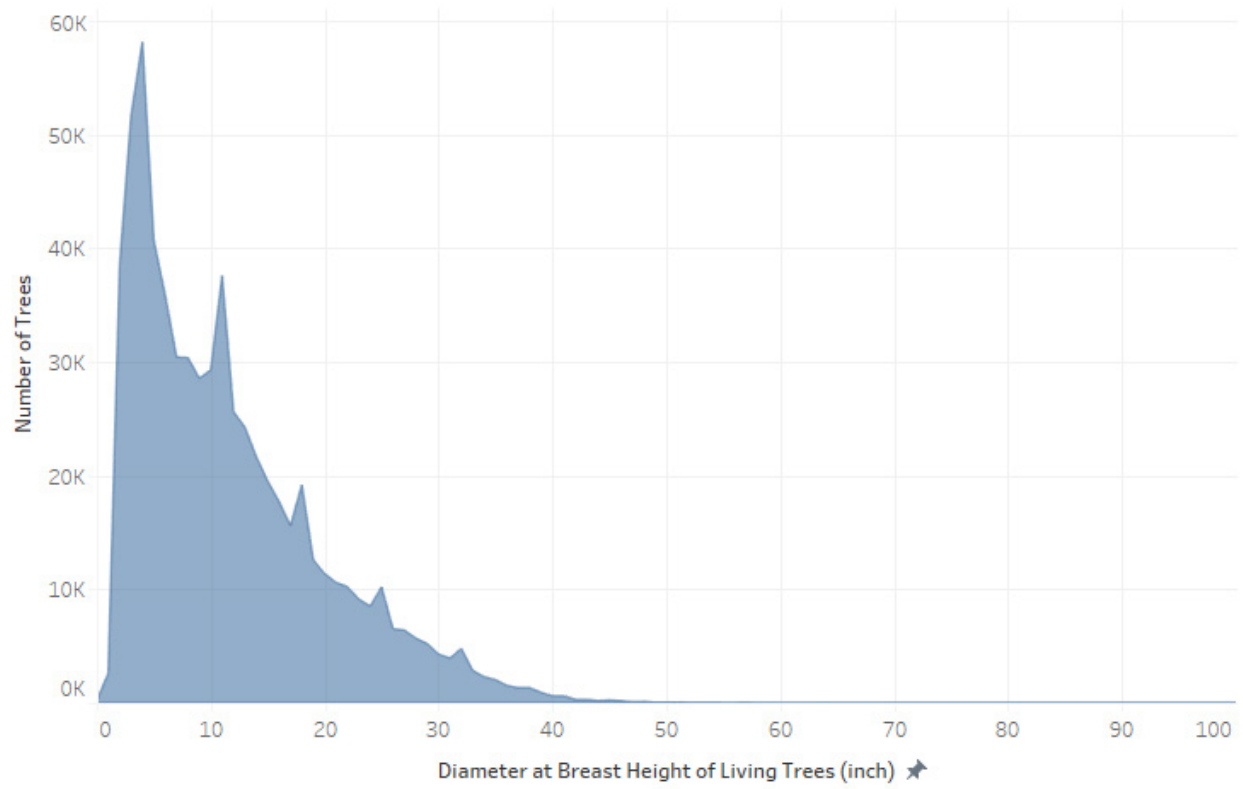
Tree Species Having the Largest Number for each census tract



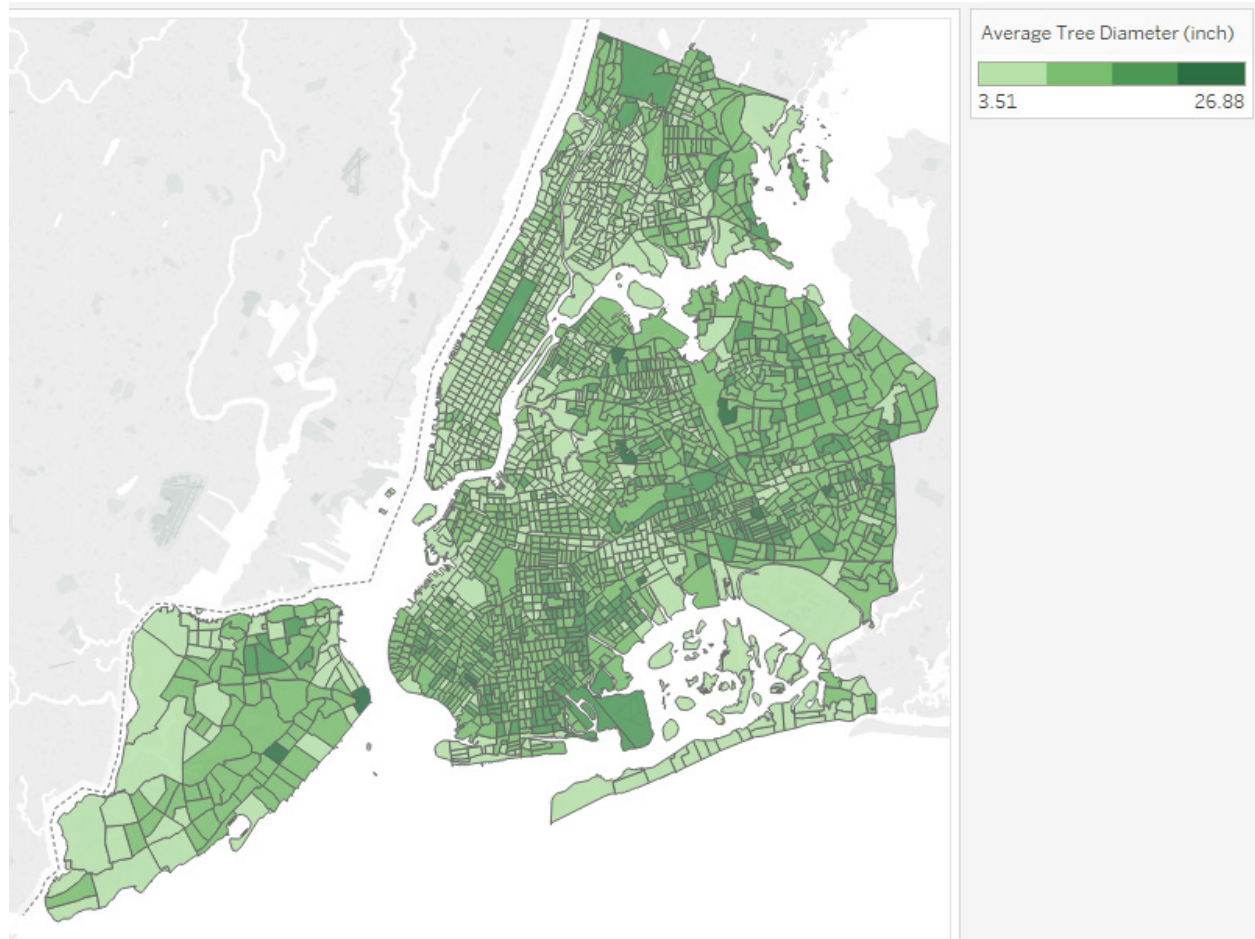
London plane (*Platanus × acerifolia*) is the most popular species. However, it is not the most popular in Manhattan. The most popular in Manhattan is honey locust (*Gleditsia triacanthos* var. *inermis*).



What is the distribution of diameter of trees?



Is there a relationship between tree diameter and locations?



Notice that this is also related to popular tree species

Which tree species is best for planting alongside the street? Is it the most popular species?

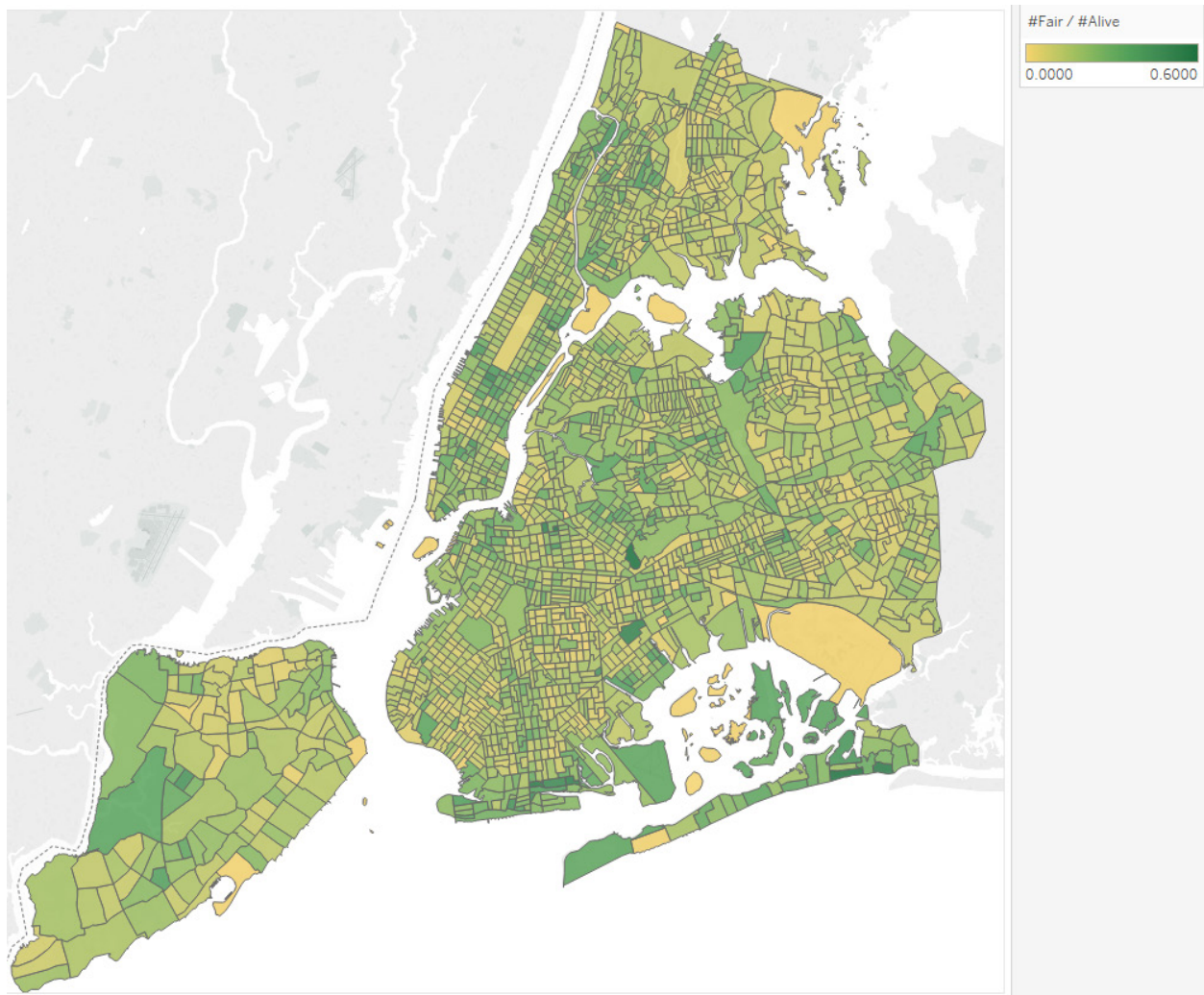
- What is the most healthy species? (or other)



Are there historical changes among 1995, 2005, and 2015?

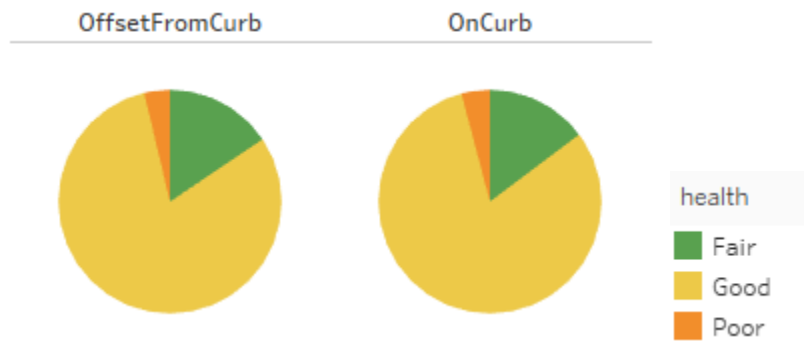
* This question is removed. Since the format of 1995 and 2005 census data is greatly different from that of the 2015 census data.

Is there a relationship between tree status / health and locations?



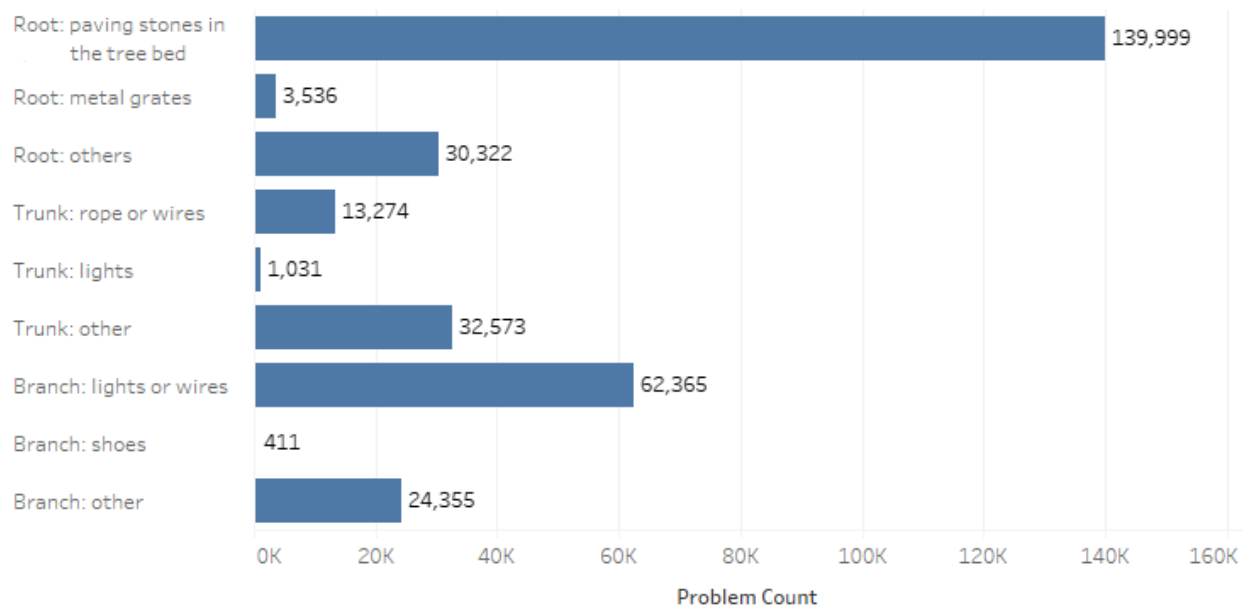
The relationship is not so clear.

Is there a relationship between tree status / health and whether it is along or offset from the curb?



No.

What are most severe problems for street trees?



Paving stones in the tree bed (causing root problems).

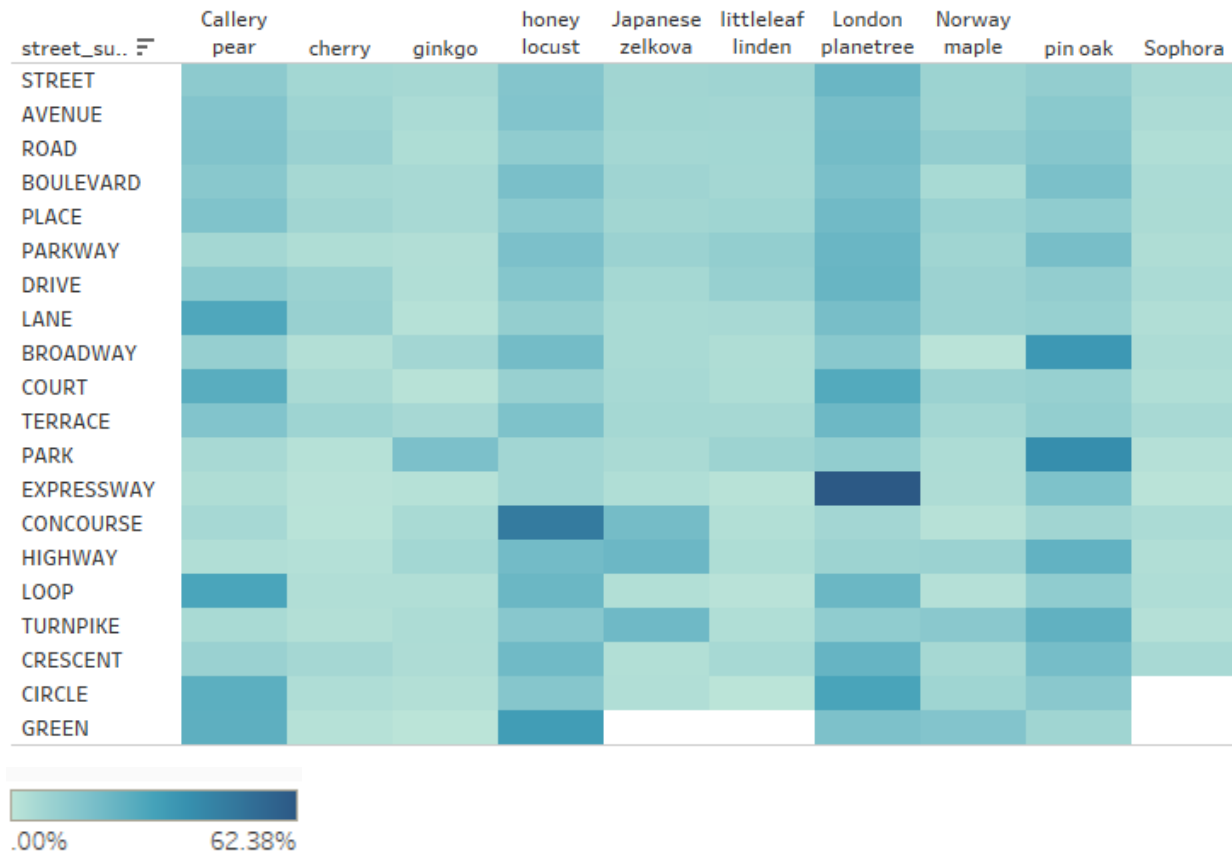
Does different kind of streets tend to have more or less trees?

- Is there a relationship between street suffixes (e.g. “St” in “Jay St”) and number of trees?

* This question may be unable to answer, since we do not know the length of a street.

Does different kind of streets prefer different tree species?

- Is there a relationship between street suffixes and tree species?



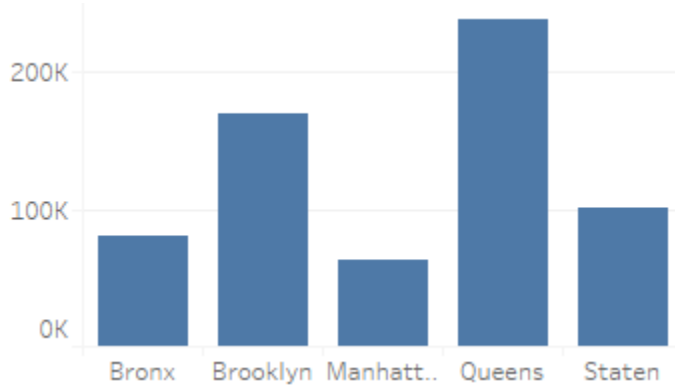
Top 20 street suffixes and top 10 tree species.

Storyboard and Sketches

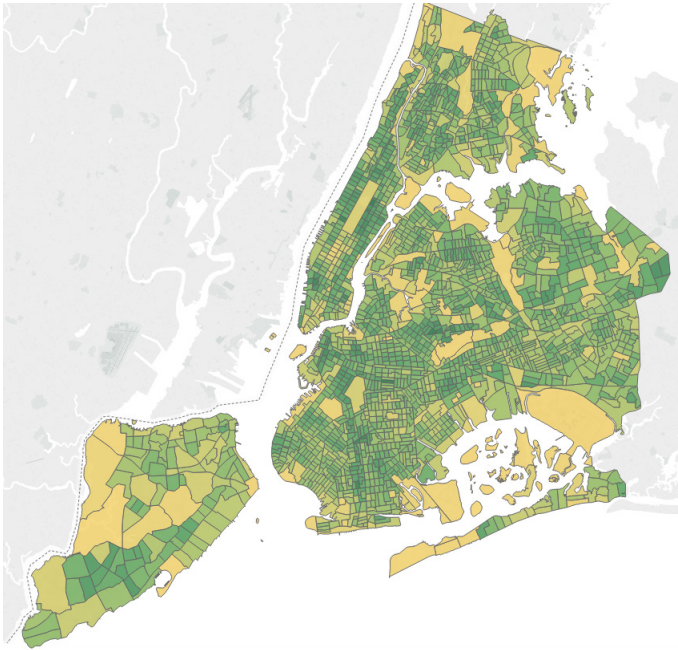
We walk on streets everyday; we are passing street trees everyday. Do we notice or understand street trees? How do we understand street trees?

Here, we will tell the story of street trees in NYC. The story will be composed of following sections (with sketches):

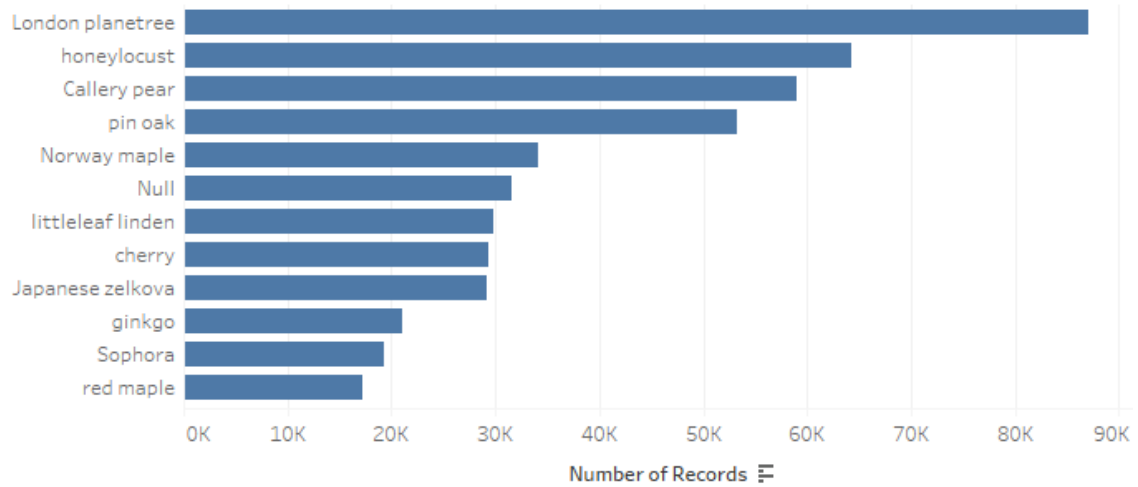
1. How many trees are there—count?



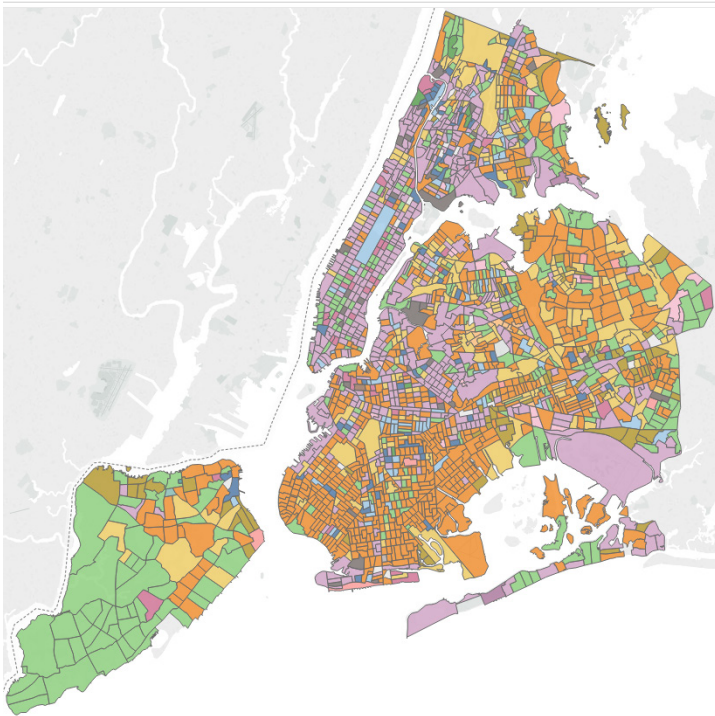
2. How many trees are there—density/distribution?



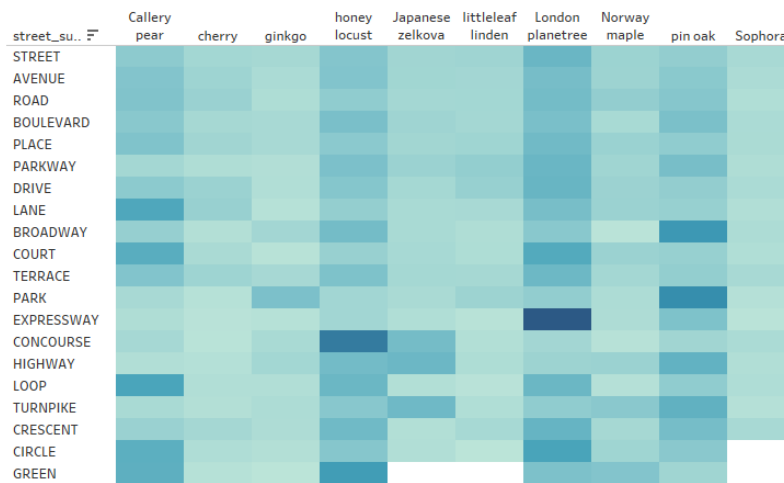
3. What are they—top 10 species? (and photos)



4. What are they—popular species?



5. What is the relationship between street suffixes and tree species?



I would also like to do some field trips to take photos of trees of different species and on different types of streets.

Implementation

GitHub repository: <https://github.com/NYU-VIS-FALL2018/street-trees>

Demo page: <https://nyu-vis-fall2018.github.io/street-trees/>