



New York City Trees

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Introduction

- Graduated from ASU in 2018 with a BS in Aerospace Engineering
- Have 5 years of experience as a Product Development Engineer with Ford Motor
- Have coding experience with Matlab, Python, SQL, KQL, HTML, C++, and Java
- Currently residing in Tempe Arizona
- Big fan of the local teams GO SUNS!



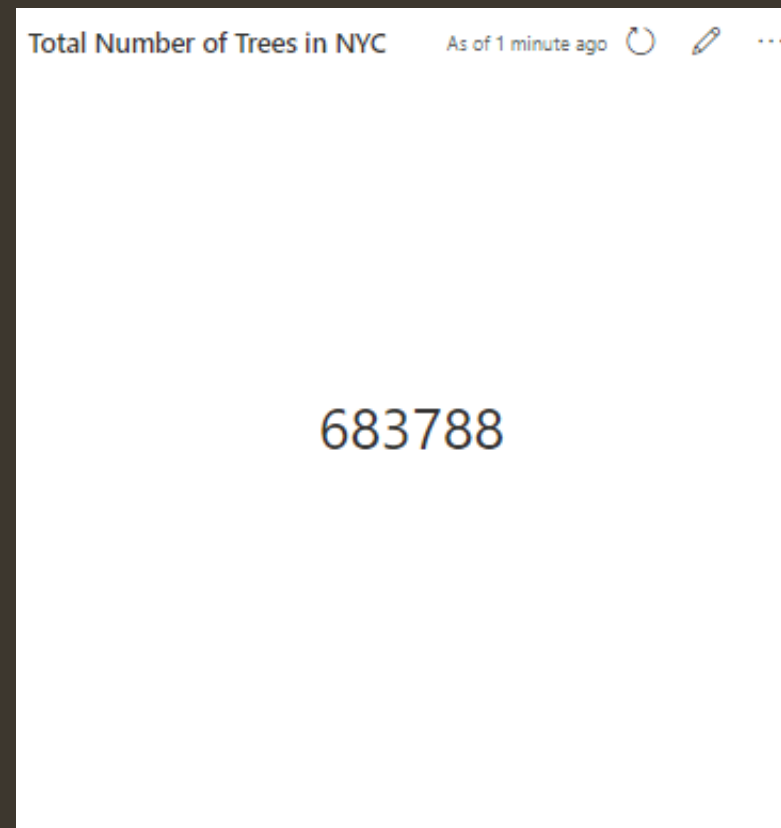


An Exploration of Trees in the Five Boroughs

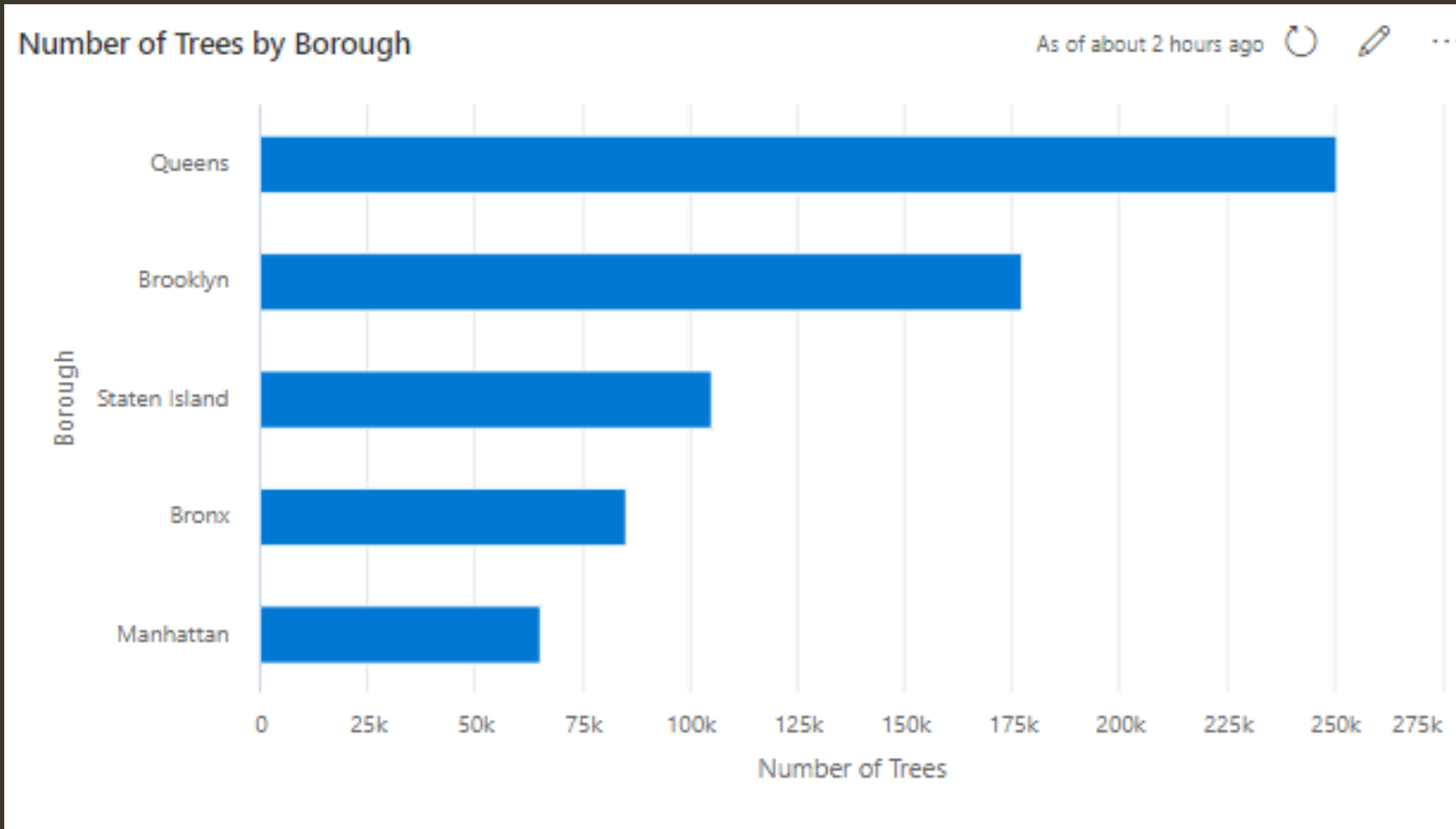


New York City Trees Data

- Data from NYC Tree Census
- 45 Different attributes captured in this census
- The attributes describe location of tree (Borough, address, lat & long, zip code, etc.), species, condition, documented problems etc.
- Using the findings to properly fund areas of need.



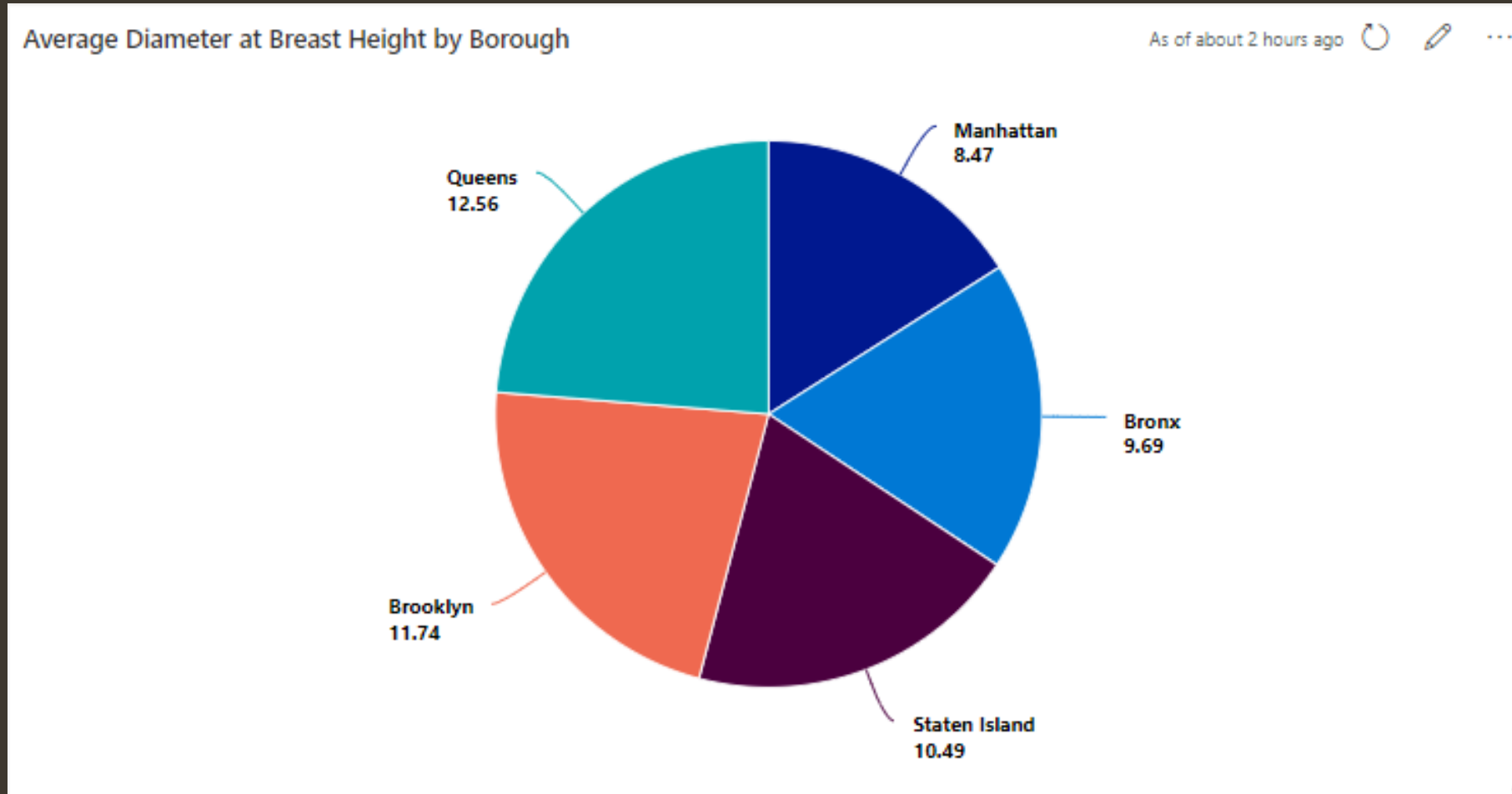
Trees in the Five Boroughs of NYC



- Queens most amount trees 250,551
- Manhattan least amount of trees with 65,423



Tree Trunk Thickness

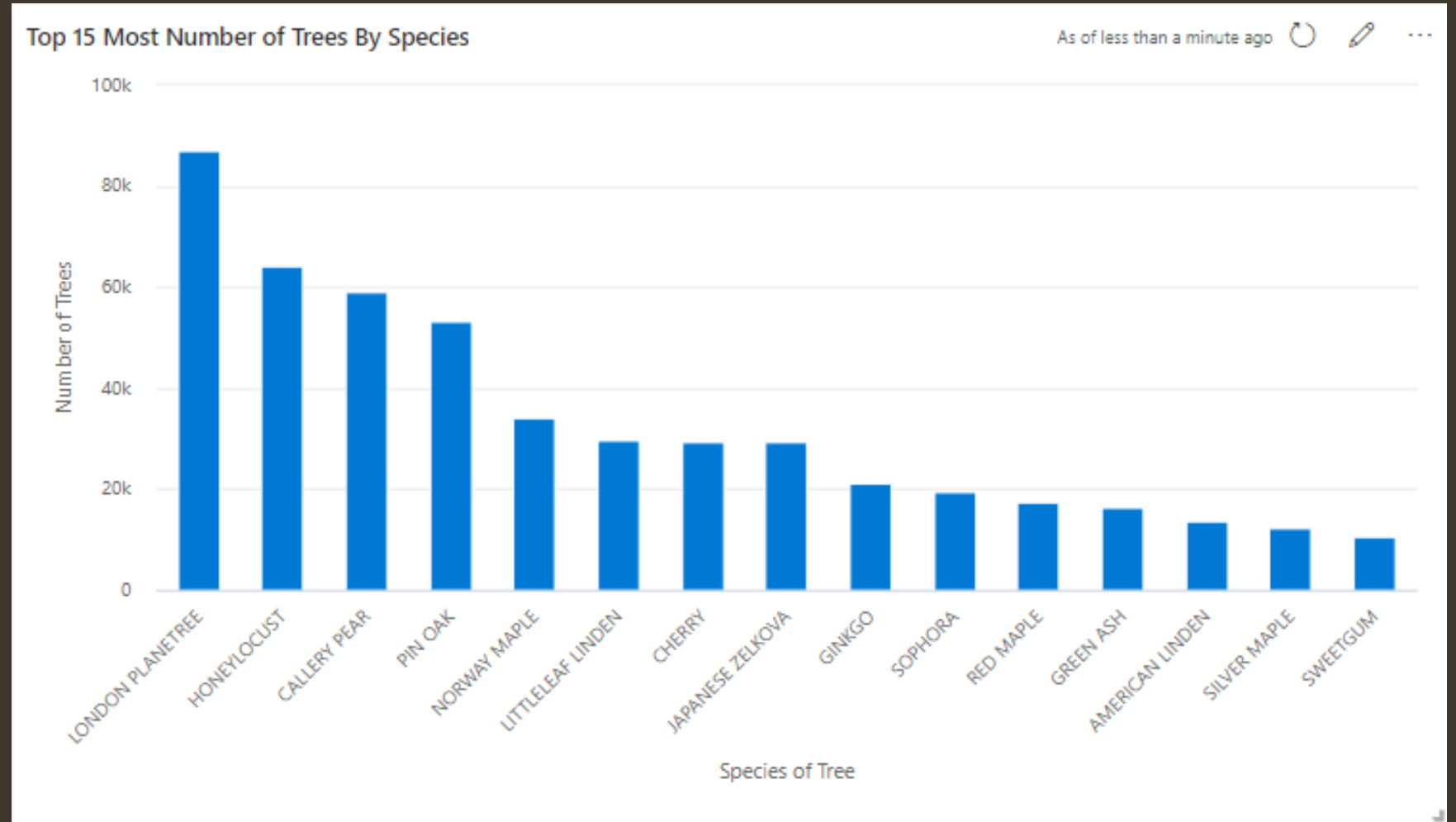


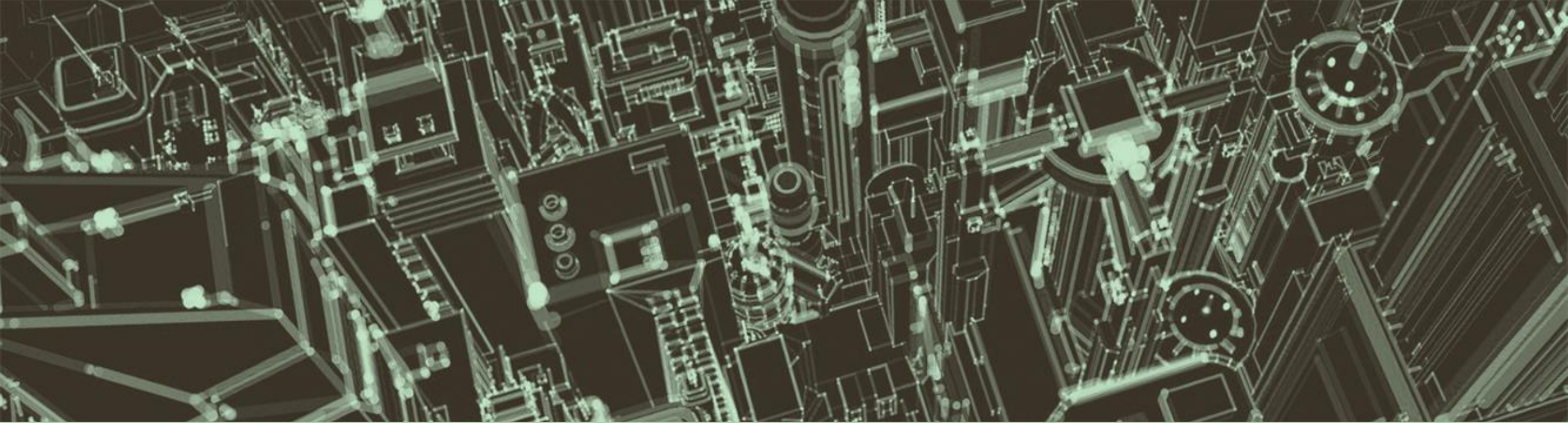
- Queens largest average diameter of tree trunk at chest height.
- Manhattan lowest average diameter of tree trunk at chest height.



Prevalent Tree Species

- 15 Most Frequent Species of Trees in NYC.
- London Planetree most amount of trees 87,014





Dark Side of Trees

Problems and Death



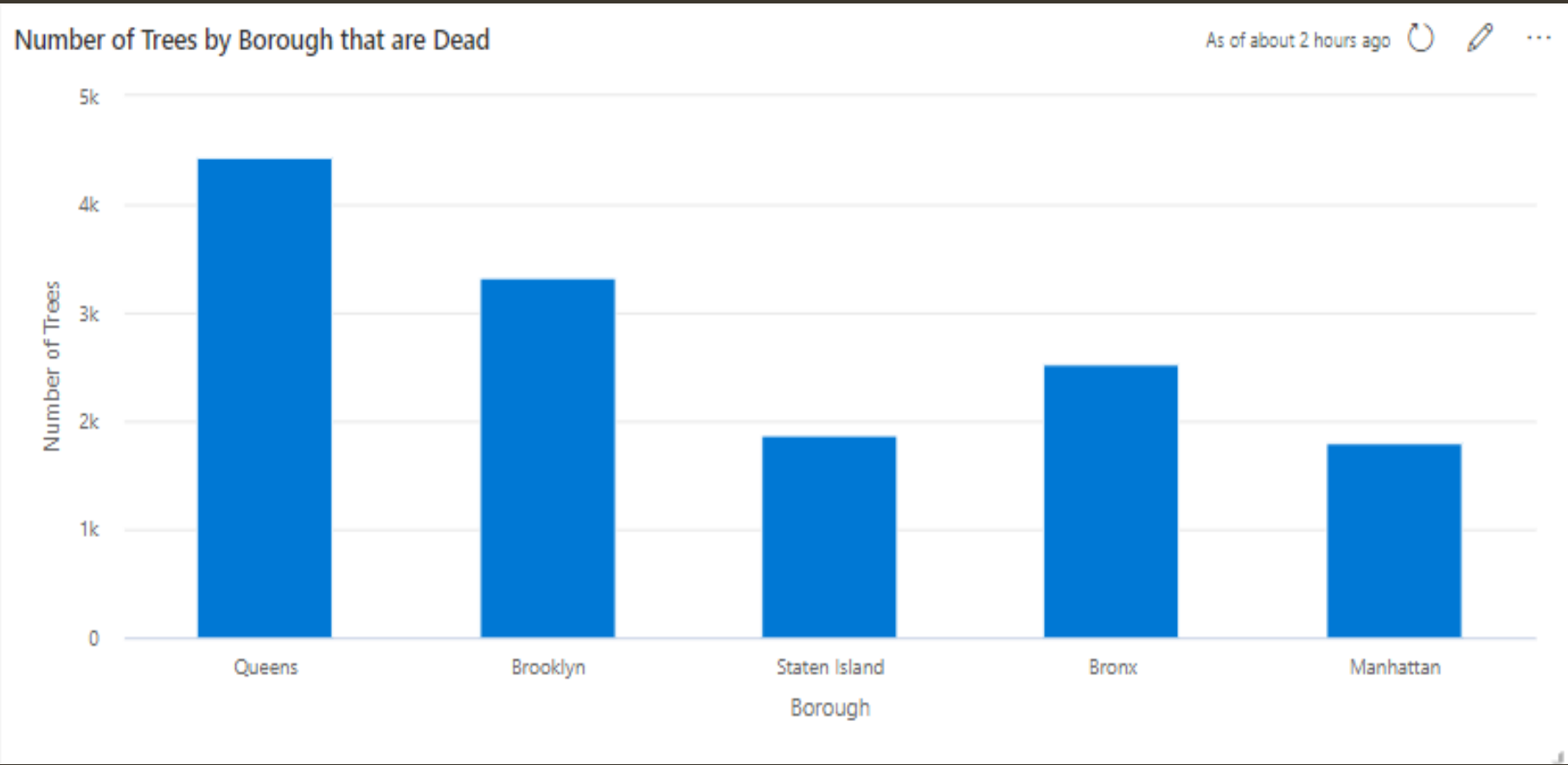
Cited Problems

Most Common Problems Found				As of 5 minutes ago			
Stones	BranchLights	Stones,BranchLights	RootOther				
95673	29452	17808	11418				
TrunkOther	BranchOther	Stones,TrunkOther	Stones,RootOther				
11143	8352	5183	4468				

- Stones by and large being the biggest problem.
- Brach lights, Root, Trunk



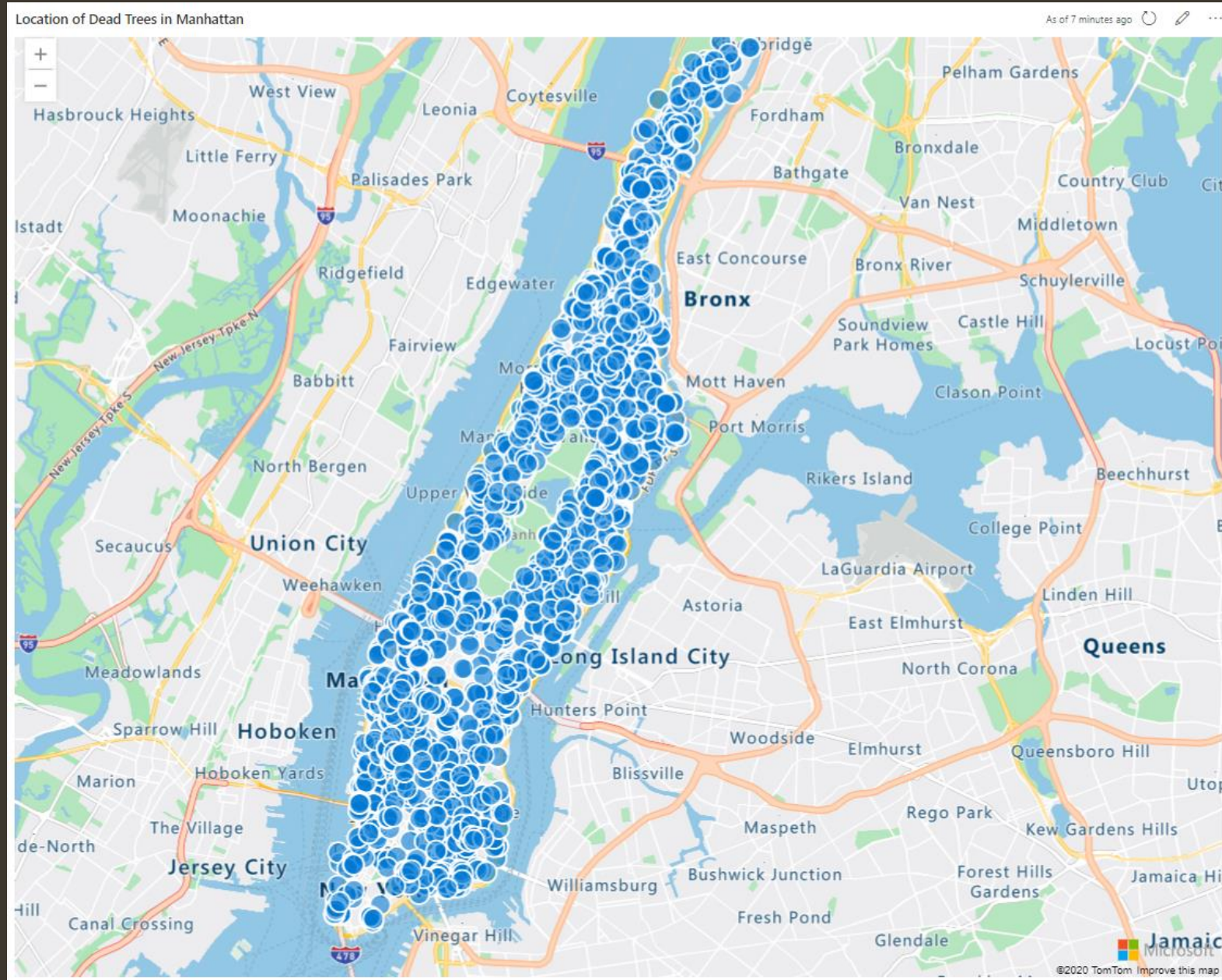
Dead Trees



Borough	Number Dead
Brooklyn	3,319
Bronx	2,530
Manhattan	1,802
Staten Island	1,870
Queens	4,440



Location of Dead Trees (Manhattan)



Questions



Badges

AWARDS



Rookie



Detective I



Detective II



Detective III



Senior Detective



Senior Detective



All Collected



Appendix 1 - Queries

```
1 nyc_trees
2 | where isempty(['_status']) or status in (['_status'])
3 | where isempty(['_species']) or spc_common in (['_species'])
4 | summarize Count = count() by borough
5
```

```
1 nyc_trees
2 | where isempty(['_status']) or status in (['_status'])
3 | where isempty(['_species']) or spc_common in (['_species'])
4 | where status contains "Dead"
5 | summarize Count = count() by borough
6
```

```
1 nyc_trees
2 | where isempty(['_status']) or status in (['_status'])
3 | where isempty(['_species']) or spc_common in (['_species'])
4 | summarize count() by toupper(spc_common)
5 | order by count_desc
6 | limit 15
7
```

```
1 nyc_trees
2 | summarize count()
3
```

```
1 nyc_trees
2 | where isempty(['_status']) or status in (['_status'])
3 | where isempty(['_species']) or spc_common in (['_species'])
4 | summarize round(avg(tree_dbh), 2) by borough
5
```

```
1 nyc_trees
2 | where isempty(['_status']) or status in (['_status'])
3 | where isempty(['_species']) or spc_common in (['_species'])
4 | where borough contains "Manhattan"
5 | where status contains "Dead"
6 | project longitude, latitude
7 | render scatterchart with (kind = map)
8
```

```
1 nyc_trees
2 | where isempty(['_problems']) or problems in (['_problems'])
3 | where isempty(['_status']) or status in (['_status'])
4 | where isempty(['_species']) or spc_common in (['_species'])
5 | summarize count() by problems
6 | order by count_desc
7 | limit 8
```



Appendix 2 - Data Sample and Attributes

tree_id, block_id, created_at, tree_dbh, stump_diam, curb_loc, status, health, spc_latin, spc_common, steward, guards, sidewalk, user_type, problems, root_stone, root_grate, root_other, trunk_wire, trnk_light, trnk_other, brch_light, brch_shoe, brch_other, address, postcode, zip_city, community_board, borocode, borough, cncldist, st_assem, st_senate, nta, nta_name, boro_ct, state, latitude, longitude, x_sp, y_sp, council_district, census_tract, bin, bbl

	tree_id	block_id	created_at	tree_dbh	stump_diam	curb_loc	status	health	spc_latin
>	551,372	300,674	2016-03-20 00:00:00.0000	7	0	OnCurb	Alive	Good	Koelreuteria paniculata
>	579,139	411,160	2016-06-08 00:00:00.0000	2	0	OnCurb	Alive	Good	Cornus mas
>	588,911	307,127	2016-06-15 00:00:00.0000	6	0	OnCurb	Alive	Good	Quercus bicolor
>	601,608	348,519	2016-06-24 00:00:00.0000	8	0	OnCurb	Alive	Good	Cornus mas
>	604,556	225,252	2016-06-27 00:00:00.0000	11	0	OnCurb	Alive	Good	Quercus shumardii
>	610,305	341,479	2016-06-30 00:00:00.0000	2	0	OnCurb	Alive	Good	Quercus bicolor
>	614,465	329,020	2016-07-05 00:00:00.0000	5	0	OnCurb	Alive	Good	Robinia pseudoacacia
>	618,527	203,841	2016-07-08 00:00:00.0000	4	0	OnCurb	Alive	Good	Quercus bicolor
>	625,875	307,702	2016-07-13 00:00:00.0000	18	0	OnCurb	Alive	Good	Quercus coccinea
>	627,537	317,331	2016-07-15 00:00:00.0000	3	0	OnCurb	Alive	Good	Quercus shumardii
>	629,089	342,346	2016-07-16 00:00:00.0000	10	0	OffsetFromCurb	Alive	Good	Pinus resinosa
>	634,100	222,174	2016-07-19 00:00:00.0000	4	0	OnCurb	Alive	Fair	Quercus shumardii
>	640,888	308,772	2016-07-26 00:00:00.0000	6	0	OnCurb	Alive	Good	Koelreuteria paniculata
>	643,990	319,957	2016-07-28 00:00:00.0000	38	0	OnCurb	Alive	Good	Quercus shumardii
>	649,861	221,117	2016-08-01 00:00:00.0000	4	0	OnCurb	Alive	Good	Koelreuteria paniculata
>	650,603	405,550	2016-08-02 00:00:00.0000	2	0	OnCurb	Alive	Good	Cornus mas
>	650,150	309,482	2016-08-02 00:00:00.0000	2	0	OnCurb	Alive	Good	Quercus coccinea
>	656,662	346,360	2016-08-06 00:00:00.0000	4	0	OnCurb	Alive	Good	Cornus mas
>	657,394	314,646	2016-08-07 00:00:00.0000	2	0	OnCurb	Alive	Good	Parrotia persica
>	665,623	327,791	2016-08-15 00:00:00.0000	10	0	OnCurb	Alive	Good	Platanus x acerifolia
>	665,826	328,177	2016-08-15 00:00:00.0000	9	0	OnCurb	Alive	Good	Platanus x acerifolia
>	665,626	327,791	2016-08-15 00:00:00.0000	8	0	OnCurb	Alive	Good	Platanus x acerifolia
>	667,847	336,658	2016-08-17 00:00:00.0000	6	0	OnCurb	Alive	Good	Koelreuteria paniculata
>	667,723	220,681	2016-08-17 00:00:00.0000	5	0	OnCurb	Alive	Good	Quercus coccinea

