Baltimore Data Fellow Task

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Main Questions

The DataFrame initially contains 447566 rows, which after filtering as directed in the instructions reduce to 241045 rows

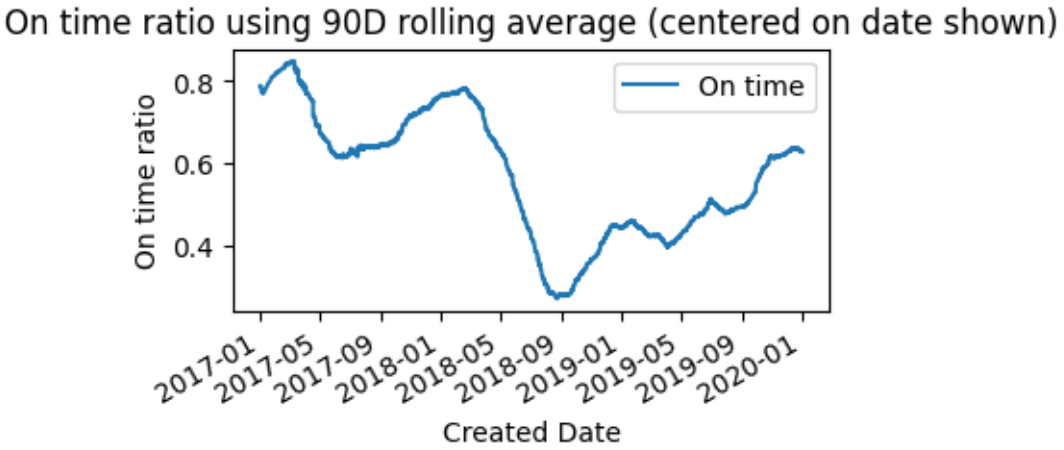
For each type of service request, how many service requests were created each year from 2017-2019?

SR Type Created Date	SW-Boarding	SW-Cleaning	SW-Dirty Alley	SW-Dirty Street	SW-HGW
2017	7445	10715	24065	15212	23488
2018	9025	16047	25936	15700	20327
2019	8007	10395	22117	13409	19157

As we can see, the numbers stay pretty constant from year-to-year. Most of them peak in 2018 (SW-Cleaning especially), while SW-HGW (High Grass and Weeds) is the only one that monotonocally decreases.

How did the on-time % change over time? Please use a rolling 90 day average.

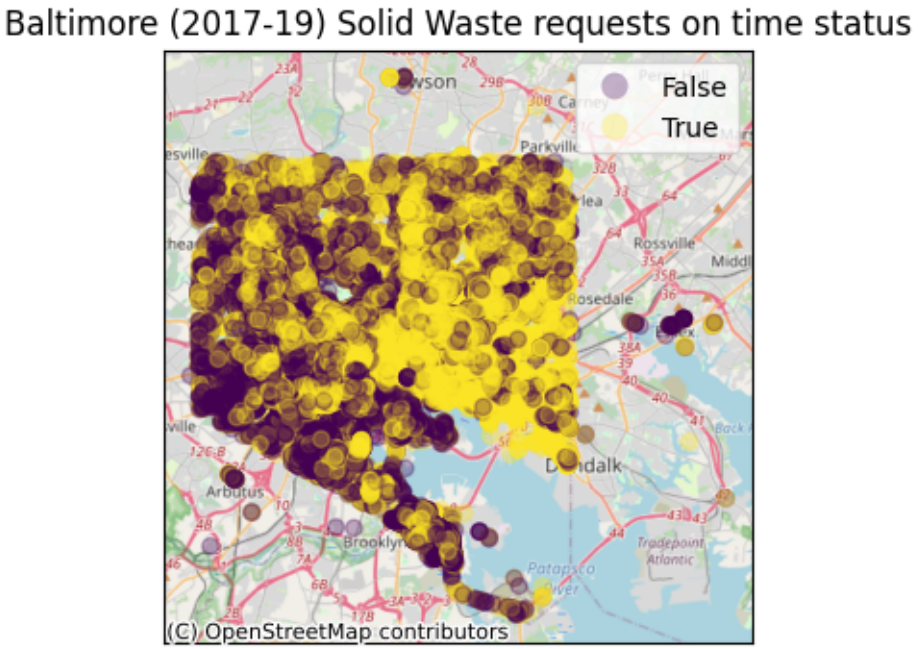
From this graph, it is pretty clear that in 2018, the on time ratio suffered. This could potentially be due to the increase in number of requests. Throughout 2019, the on-time ratio seem to be getting slightly better, with it growing through the year although it is still not as high as the 2017-early 2018 numbers.



What % of service requests created in 2019 were completed past the due date?

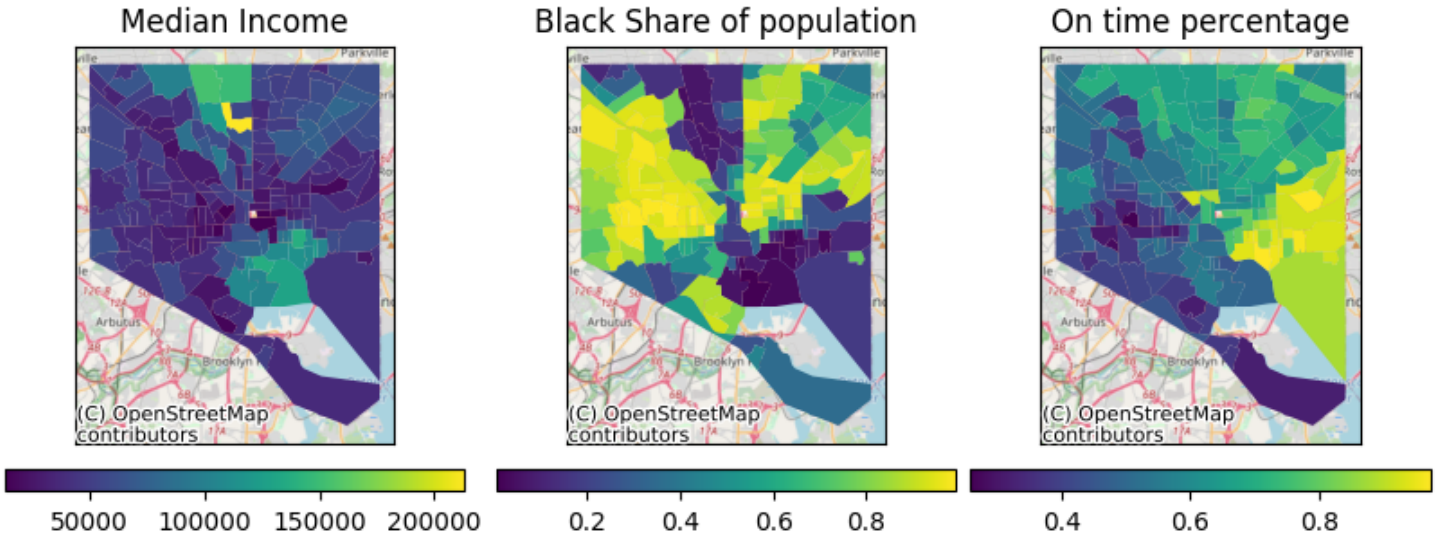
The on time percentage in 2019 is 51.1%, which is quite low, especially compared to other time periods from the graph where it was in the late 70%s to early 80%s

Using the information calculated above and other information from the dataset, can you provide evidence to determine if service requests created in 2019 are being completed equitably across the city?



This is a map centered on the City of Baltimore, with the points representing the filtered requests from the data. The yellow points are the ones that were serviced on time while the purple ones were not serviced on time. Clearly, there is quite a geographical split to it. The western half of the city seems to be less well serviced than the eastern half! I am not well versed with the wealth/racial split of populations across Baltimore, but I would guess it mirrors this distribution with the Eastern half being richer and Whiter.

You may also provide any additional insights that you found while exploring the data.



Here we use the ACS5 2018 estimates for median income and share of black population, to compare it with the on time percentage for Census Tracts in Baltimore. We see some overlap with richer, whiter areas having better service, and there is also a large swath of relatively poorer minority neighborhoods that have good service. So race and wealth do not necessarily explain the differences here!