Spatial Processes and Correlations

Spatial Join: Census OSM and Meter locations

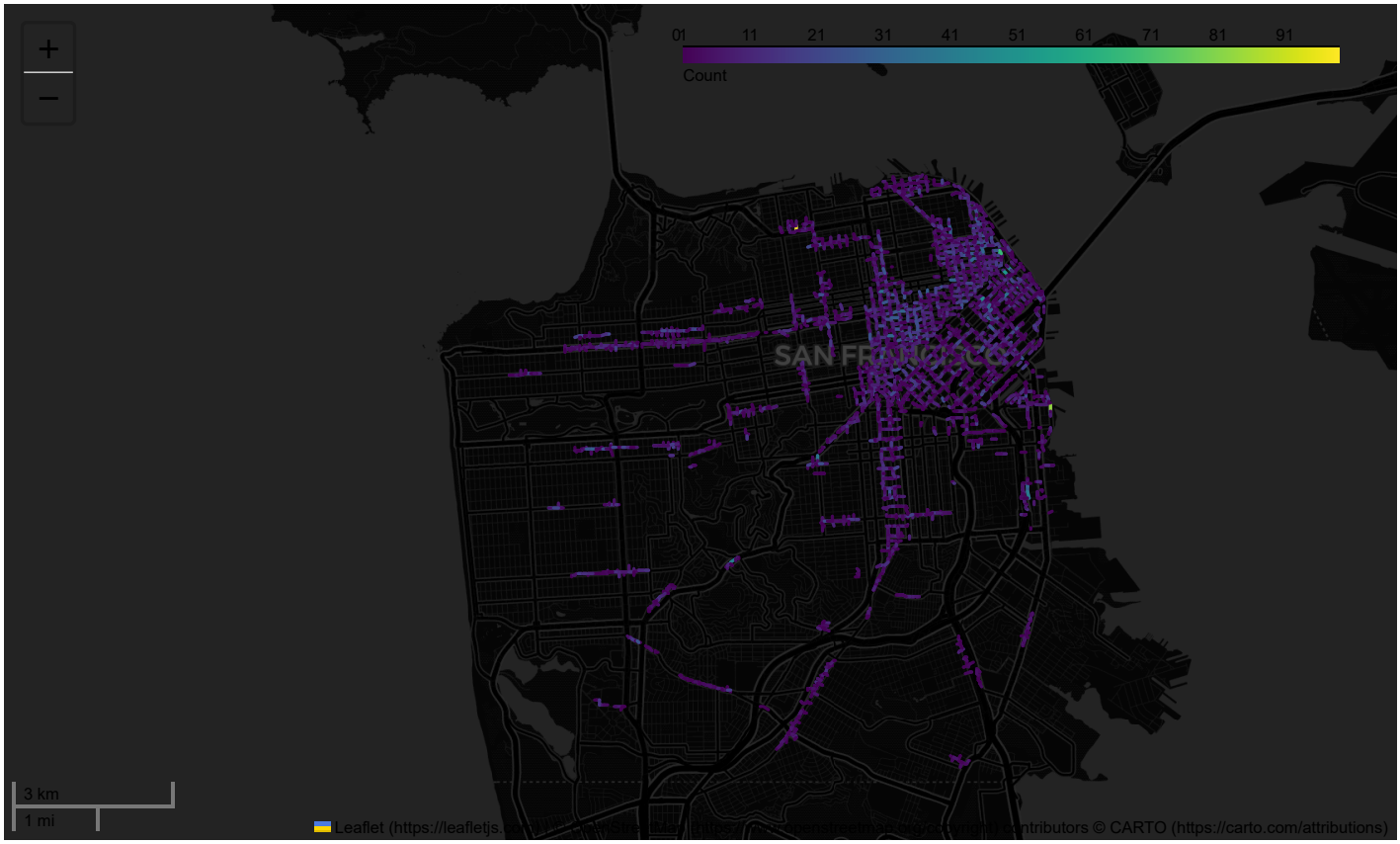
Upon hovering over areas of interest, the count of meters and associated variables, including wealth and demographic indicators, are observed. Preliminary findings suggest a correlation between areas with a high density of parking meters and indicators of affluence, such as higher socioeconomic status and a predominantly white population. Further analysis aims to uncover additional factors contributing to the observed patterns.

▶ Code

▶ Code

```
D:\Fall_2023\Python\Mambaforge\envs\musa-550-fall-2023\lib\site-packages\IPython\core\interactiveshell.py:3448:
FutureWarning: The `op` parameter is deprecated and will be removed in a future release. Please use the `predicate`
parameter instead.
  if await self.run_code(code, result, async_=asy):
```

▶ Code

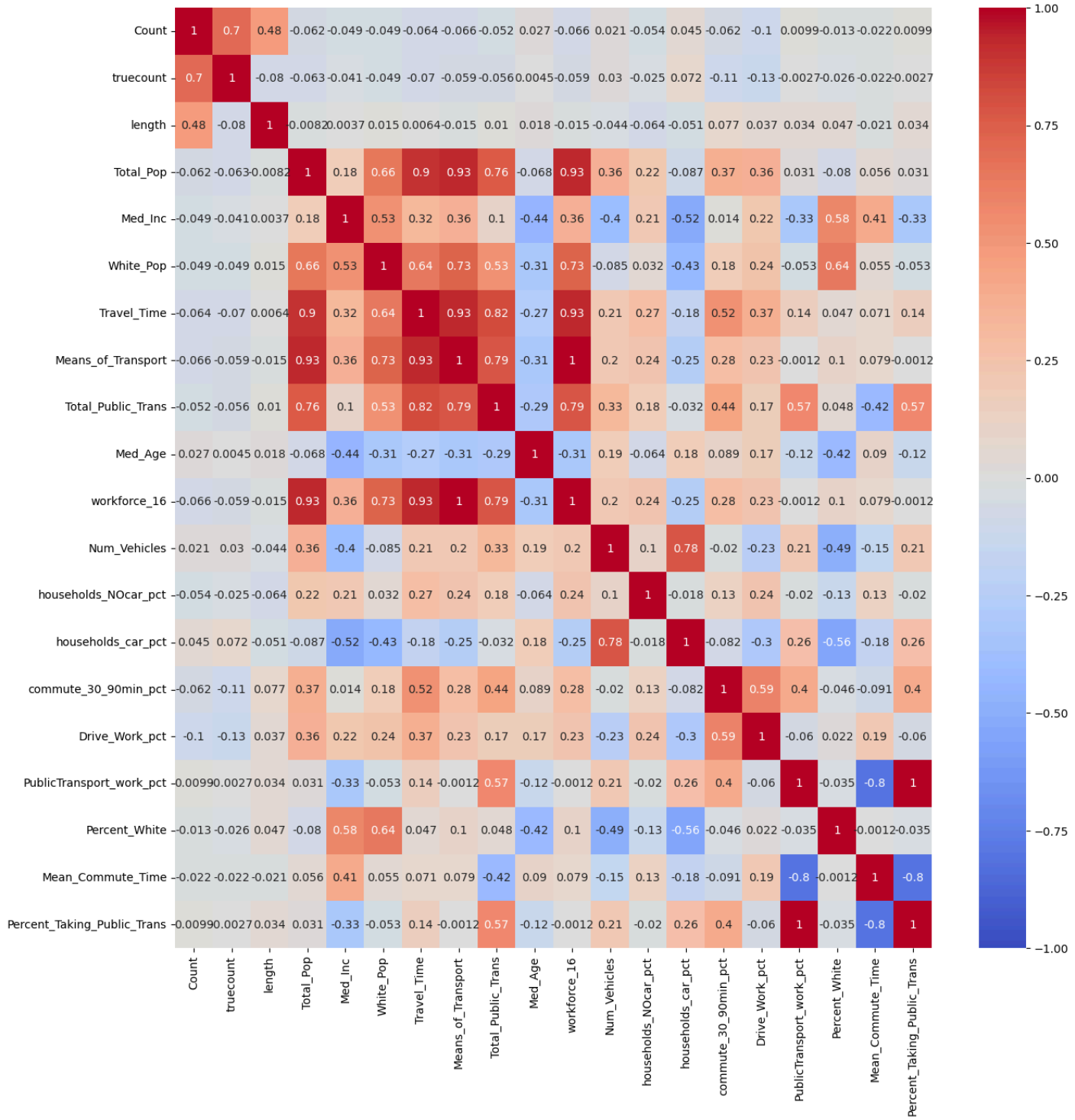


Correlations

To understand distribution trends with more precision, a correlation test is conducted to identify the variables that exhibit the strongest statistical relationship with the count of parking meters. This information on influencing variables could inform predictive modeling for the future placement of parking meters.

▶ Code

▶ Code



We can see here that factors like percentage of people taking public transit and residents having longer commute times have a negative correlation with number of parking meters per street, indicating that an increase in these variables can be associated with meter-rich areas.

Conclusion and Next Steps

The patterns we have uncovered through this analysis not only sheds light on the current state of parking demand but also equips us with the predictive tools needed to anticipate future trends. Harnessing this knowledge can enable city officials and policymakers to proactively address the growing challenges of parking management, creating sustainable solutions that cater to the specific needs of different communities.