## 30538 Problem Set 2: Parking Tickets

## you

## Invalid Date

- 1. "This submission is my work alone and complies with the 30538 integrity policy." Add your initials to indicate your agreement: \*\* WS \*\*
- 2. "I have uploaded the names of anyone I worked with on the problem set **here**" \*\*\_WS\_\*\* (1 point)
- 3. Late coins used this pset: \*\*\_0\_\* Late coins left after submission: \*\*\_4\_\*
- 4. Knit your ps2.gmd to make ps2.pdf.
  - The PDF should not be more than 25 pages. Use head() and re-size figures when appropriate.
- 5. Push ps2.qmd and ps2.pdf to your github repo. It is fine to use Github Desktop.
- 6. Submit ps2.pdf via Gradescope (4 points)
- 7. Tag your submission in Gradescope

```
import pandas as pd
import altair as alt
alt.renderers.enable("png")
import time

import warnings
warnings.filterwarnings('ignore')
```

## Data cleaning continued (15 points)

1.(For each column, how many rows are NA? Write a function which returns a two column data frame where each row is a variable, the first column of the data frame is the name of each variable, and the second column of the data frame is the number of times that the column is NA. Test your function. Then, report the results applied to the parking tickets data frame. There are several ways to do this, but we haven't covered them yet in class, so you will need to work independently to set this up.) 2.

3. 4.
Revenue increase from "missing city sticker" tickets (20 Points)
1. 2.
3. 4.
<ul><li>5.</li><li>6.</li></ul>
Headlines and sub-messages (20 points)
1. 2.
3.
Understanding the structure of the data and summarizing it (Lecture 5, 20 Points)
1. 2.
3.
Multi-view Composition (15 Points)
1. 2.
Δ.
Extra Credit (max 5 points)