Aurora

ADS - Data Analyst Take Home Challenge

The problem

Construction poses a challenge for Autonomous Vehicles (AVs). We want you to use this kaggle dataset to answer a few questions regarding construction frequency.

Please submit all your code and an artifact detailing answers to the questions below (either a written document or a presentation). You should expect to spend roughly ~20 mins presenting your work, followed by roughly 10 mins of questions from Data Analysts, Data Scientists, and other relevant stakeholders.

We will be assessing the quality of your code, your ability to communicate answers to the questions, and your reasoning through these questions. We expect you to spend roughly 4-8 hours on this problem, so feel free to prioritize simplicity in your approach and mention alternative more sophisticated ways to tackle the problem.

You may use SQL and/or Python for this exercise.

Questions

1. Over the past 5 years which city has had the most hours of construction?
2. How has this changed over time? (please provide a chart)
3. If we account for varying city sizes (pick your metric) how do the 10 largest cities in the US compare?
    The cities to investigate are: (please present either a table or chart comparing these)
    - New York
    - Los Angeles
    - Chicago
    - Houston
    - Phoenix
    - San Antonio
    - Philadelphia
    - San Diego
    - Dallas
    - Austin

4. We have 5 potential self-driving routes (csv attached). Based on the provided data, if we want to operate an AV vehicle along one of these routes throughout a year, which route do you think poses the greatest risk of autonomy challenges because of construction?

Resources

[Kaggle data source](#)
Paths [CSV](#)