

# Executive Summary

My goal is to create a dashboard showing information about Nashville police calls over the past 5 years, and to bring in weather information to see if there is a correlation between precipitation or temperatures and what calls are reported. A stretch goal will be to collect and incorporate information from real-time active dispatch reports.

## Motivation

When our class was working with data.nashville.gov, I saw the active dispatch report and thought that working with it could present an interesting challenge and fuel some interesting questions. A real-time data pipeline is what sparked my interest, but is too big of a project to reliably take on for the MVP given our time frame so I will attempt it as a stretch goal. My main project will be to work on a dashboard of Nashville police service call data, and keep the possibility open to incorporating real-time data.

## Data Question

How does Nashville police call data compare over the last several years? What does it look like comparing year to year or month to month? Does precipitation or temperature seem to affect the calls?

## Minimum Viable Product (MVP)

I'm aiming for a Power BI dashboard showing interesting data questions about Nashville police calls over the past several years. I'll aim for a variety of different but relevant visualizations, and multiple pages to dig deeper into the data story.

## Schedule (through 4/25/2025)

1. Get the Data (estimated by 4/9/25)
2. Clean & Explore the Data (estimated by 4/14/25)
3. Create Presentation of my Analysis (estimated by 4/17/25)
4. Internal demos (4/18/25) (aiming for at least 85% done!)
5. Demo Day!! (4/25/25)

## Data Sources

data.nashville.gov (API or CSV download) for police call data from 1/1/2020-3/31/2025

www.ncdc.noaa.gov (API) for weather data from 1/1/2020-3/31/2025

stretch goal: data.nashville.gov for real-time active dispatch data (API)

stretch goal: forecast.weather.gov for the past 3 days hourly precipitation (web scraping)

## Known Issues and Challenges

- The MVP, police call data, looks pretty straightforward to obtain whether I use an API or CSVs. No issues expected there, other than maybe interpreting the data.
- NOAA's weather API looks challenging to navigate, and the documentation leaves a lot to be desired. I will need to get an API key to access their endpoints.
- The stretch goal of attempting a real-time data pipeline presents a very large challenge. The data refreshes about every 15 minutes, so I would need to collect the data on a regular interval to get the data, then stitch the information together to get a calculated resolved time. I will probably need to set up a couple computers on different networks to try to collect as consistently as possible.