# About Me

My legal name is Rose-Ivy Dunderdale, but I tell people to call me Rose. I was born in Chicago in 1997 to a first responder household. Many of my family members work in the healthcare industry. Currently I am pursuing a STEM MBA degree Specializing in information systems.

I started this program in 2020, right after I graduated from Loyola undergrad. With a health Care administration degree. In. 2021., I needed a hiatus from the program. And I moved to LA, then moved back here to Chicago to finish the program, which I will be finishing in June slash July of 2025.

My goals for this class are to refine my data visualization analysis, and model-making skills. in an environment that allows me to think freely & comprehensively about real world issues many societies face today. My hopes are to use the skills from this class and apply them to my profile/portfolio as a professional and as a student in order to qualify for roles that are aligned with healthcare technology innovation and invention.

My current skills are extensive in that of Excel and data analysis, mostly. I have more experience with analysis using Python to extrapolate, visualize and summarize statistics in Python. I just completed the course ‘Programming Analytics for Businesses’ and I'm to continue learning and applying these skills in this course as well.

When it comes to my hopes of where to be after this class is finished and after I'm done with my MBA, my goal is to be the founder of a technology research startup that offers consulting services as well as holographic technology for emergency department & patient-care uses.

A fun fact about me is that I am an athlete and an artist. I specialize in running & HIIT/Crossfit) as well as music creation and drawing as part of my more artistic side.

# City Planner Exercise

**Problem Analysis**

The key factors contributing to these infrastructure stressors and hardships are as follows:

* Lack of incentive and understanding around what it takes to optimize transportation/traffic time (aka bad driving).
* Fluctuating numbers of drivers and commuters using public transportation and variability of weather conditions and commuting times

In the spirit of analysis, an active marker for bottlenecks are construction sites across the city, both inside the major highways and in the more densely populated residential neighborhoods. The data utilization section will account for exponential population growth sections in historically overpopulated or denser parts of Chicago.

**Solution Proposal**

Several solutions have presented themselves; they are as follows:

* Roundabouts
* Taxing drivers to incentivize use of public transportation
* Tax breaks for commuters
* Purposeful construction: Construction of elevated roadways
  + Japanese slime mold case study
    - [Slime Mold Beats Humans at Perfecting Traffic Networks | Live Science](https://www.livescience.com/8035-slime-mold-beats-humans-perfecting-traffic-networks.html)
  + [OXMAN – Ecosystem design in architecture](https://www.bing.com/ck/a?!&&p=729faa3c21f10fece35ab3b56b00df1c99d891edb04591be3532da6575cb6e5fJmltdHM9MTczMTM2OTYwMA&ptn=3&ver=2&hsh=4&fclid=39e67b93-e597-6eaf-300b-6844e4446fd4&psq=OXMAN&u=a1aHR0cHM6Ly9veG1hbi5jb20v&ntb=1)

Roundabouts improve congestion in non-highway settings through the adoption of a const flow of traffic model. The strategy would not get rid of stoplights all together, but a mix of roundabouts and stoplights in denser areas of the city.

Taxing Drivers to incentivize use of public transportation sets the precedent that public transportation is not just an option, but the preferable option to truly live the city life and to (a) save money, (b) travel quickly throughout the city without incurring any additional cost that private companies may try to overcharge.

Tax breaks for commuters offer a similar opportunity to engage and entice people in large urban areas to use public transportation. With this strategy, the commuters will also be inclined to report valuable feedback and information to improve areas that city officials may not be able to identify from their perspective.

Purposeful construction, as in elevated roadways. In high density neighborhoods, the creation of taller (in vertical height) may allow for access to other major highways without driving through the city, they would essentially be driving ‘above’ the city via elevated roadways. Using the slime mold case study, the elevated roadways could start with the biological ‘shortcuts’ the mold creates – slowly of course.

**Constraints**

As there are for any project & analysis, there will be constraints, they are as follows:

* Physical space constraints
* Budget constraints – project prioritization each quarter will require labor solicitation as well as using the construction/city contract lobby to improve chances of surplus funding
* Geopolitical – Invest in political candidates that city infrastructure finance is a priority
* Environmental concerns – a major consideration ought to be the invitation of construction and raw-materials firms that are eco-friendly. This may hinder the implementation process due to premiums for eco-friendly refined materials. Refer to [OXMAN](https://www.bing.com/ck/a?!&&p=729faa3c21f10fece35ab3b56b00df1c99d891edb04591be3532da6575cb6e5fJmltdHM9MTczMTM2OTYwMA&ptn=3&ver=2&hsh=4&fclid=39e67b93-e597-6eaf-300b-6844e4446fd4&psq=OXMAN&u=a1aHR0cHM6Ly9veG1hbi5jb20v&ntb=1) – a company tasked with creating a new generation of ecosystem friendly materials and architecture.

**Data Utilization**

One of the most important questions posed in this analysis: What data would help? The inquiries are as follows:

* + Traffic flow data (lead and travel times from place to place)
  + Population growth projections (1985-2025 & in the next 5-7 years)
    - School districts (bottlenecks) distribution(s)
  + Accident reports (2000-2025)
    - Distribution between Male, Female, Non-binary parties
    - Insurance data on plan type & premium
  + Public transportation ridership data
    - Distributions between types and frequency
    - Cardholders vs one-time riders
    - Holiday ridership frequency distributions
  + Placement of redlight cameras and traffic cameras
    - May give insight as to bottleneck areas that lead to greater traffic density
  + Vehicle ratios (cars per person) / non-vehicle commuters per driver
  + Uber/Lyft % of drivers at any one point in time
    - Country of birth and origin
    - % of people with Uber/Lyft as primary job
    - % of people with Uber/Lyft as secondary job
  + Planned construction contracts
    - Companies looking to break into the federal & state infrastructure industry
  + Weather data (considering global warming projections)
  + Delivery schedules (data sharing between City of Chicago, UPS, Amazon, DHL, USPS)