



CHICAGO CAMERA VIOLATIONS

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Red Light Cameras

Summary

- Chicago wants to reduce traffic accidents as part of Vision Zero
 - Prevent T-Bone crashes which are the most fatal
- The city of Chicago found they were effective to reduce fatalities
- However, we concluded no significant evidence according to our data supporting red light cameras prevent fatalities
- Now, we want to look at Speed Cameras



Speed Cameras

WHY?

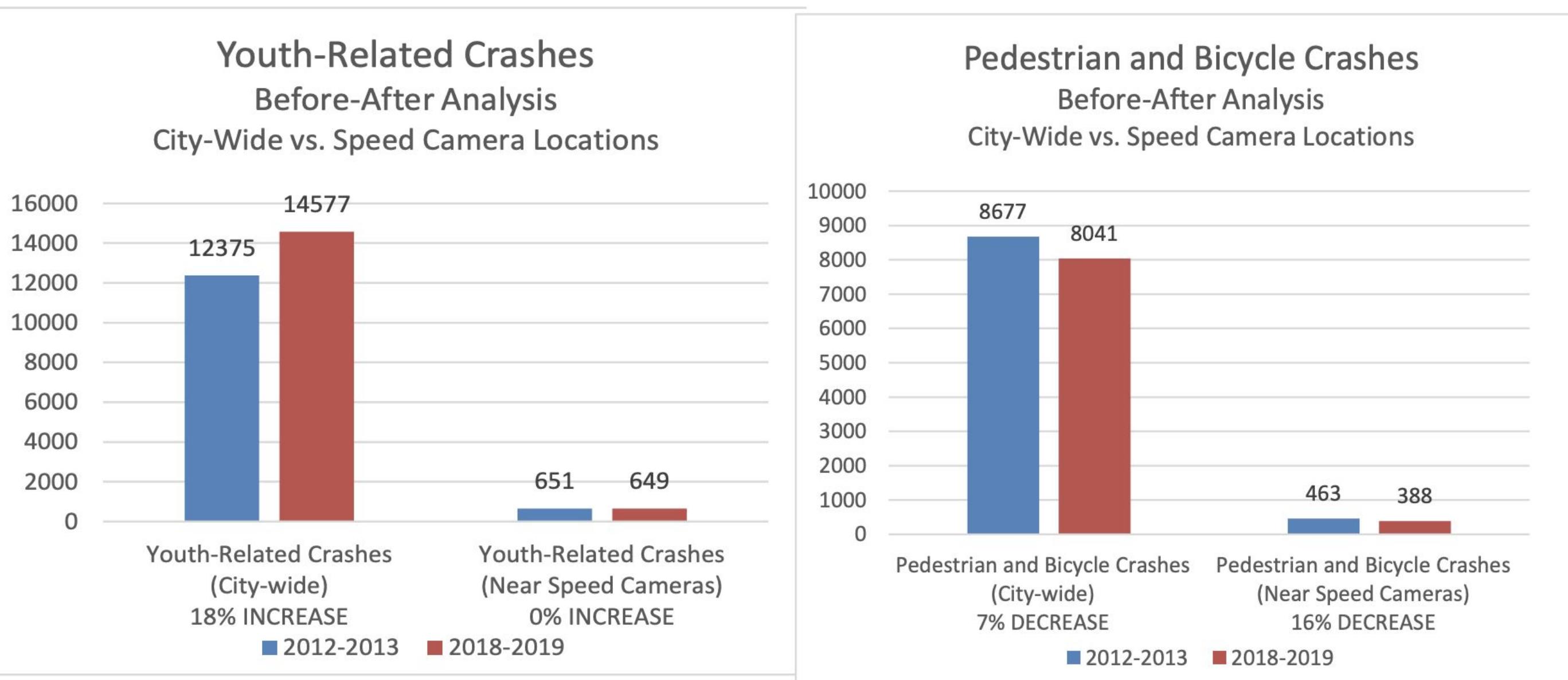
- Children Safety Zone Program:
 - Protect children, pedestrians, and other vulnerable roadway users in designated school and park zones by encouraging motorists to slow down, pay attention.

WHERE?

- Areas within 1/8th of a mile from the boundary of designated Chicago parks or schools.



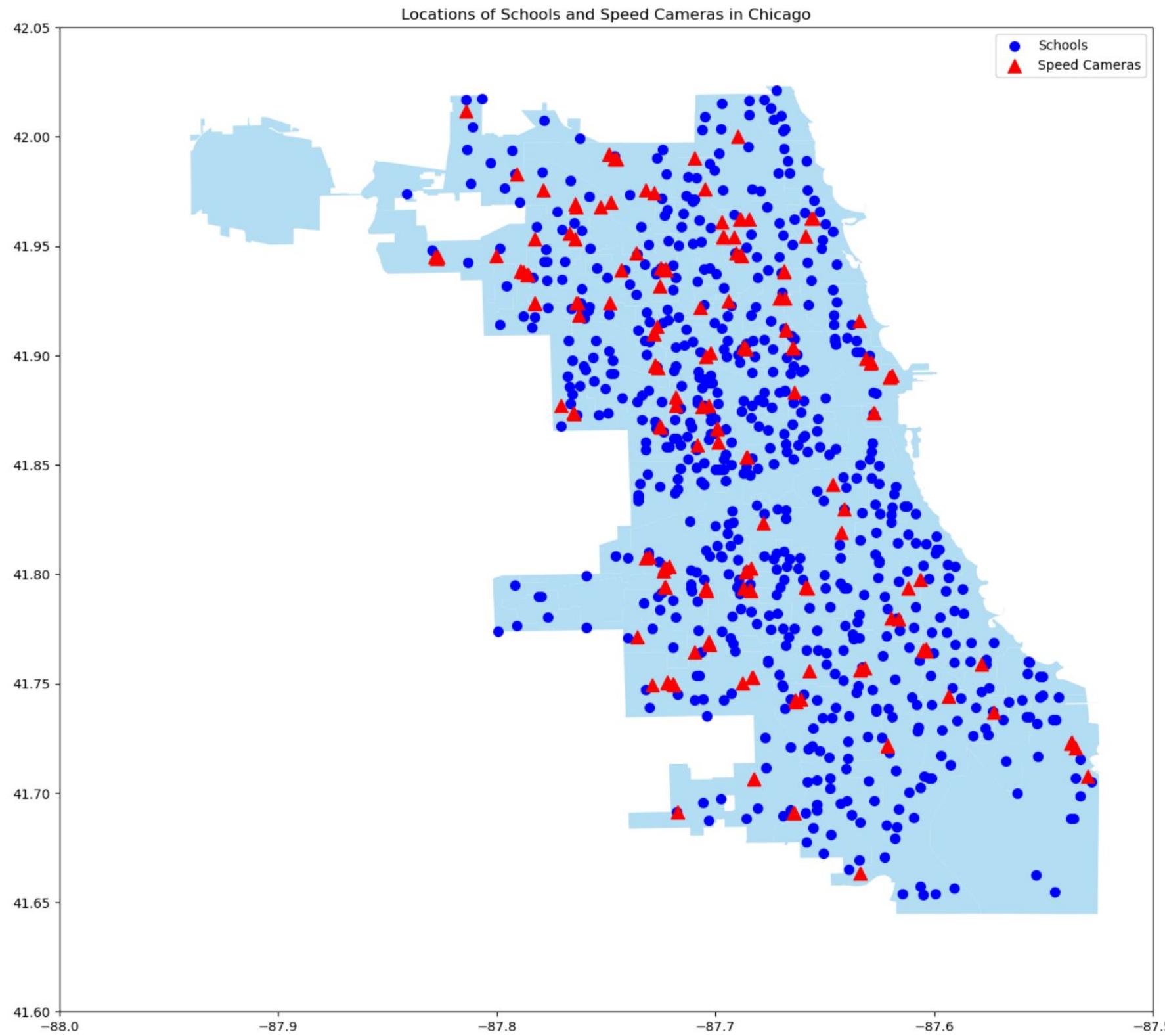
Chicago Data Supports Cameras



- According to Chicago they are effective
 - Decrease in speed.
 - Decrease in crashes
- However, both of these cherry pick data and do not give the full story
- **Now let's look at our own data and analysis.**



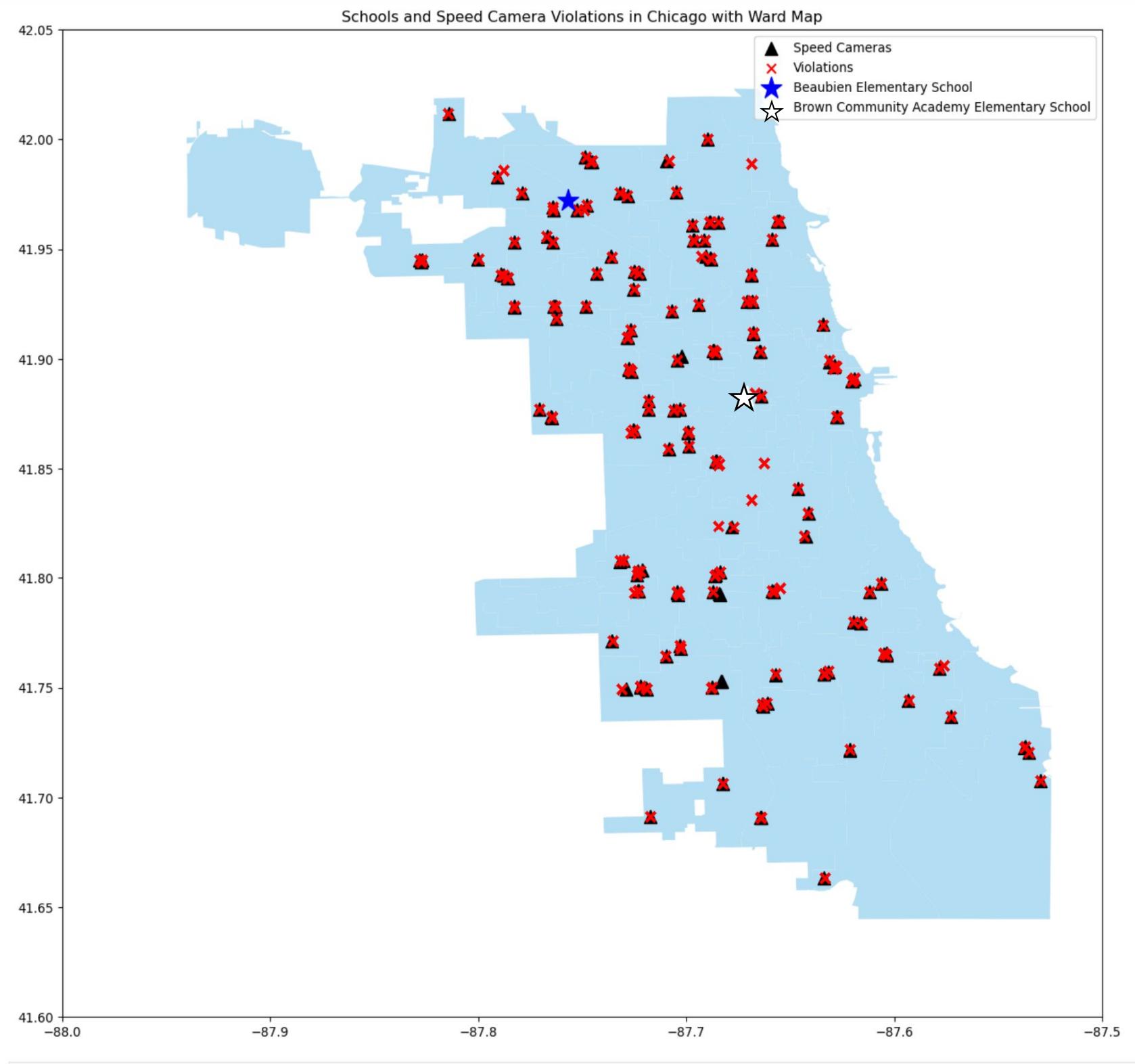
Speed Cameras Near Schools



- Speed cameras follow school zones closely



Top 2 Violation Locations

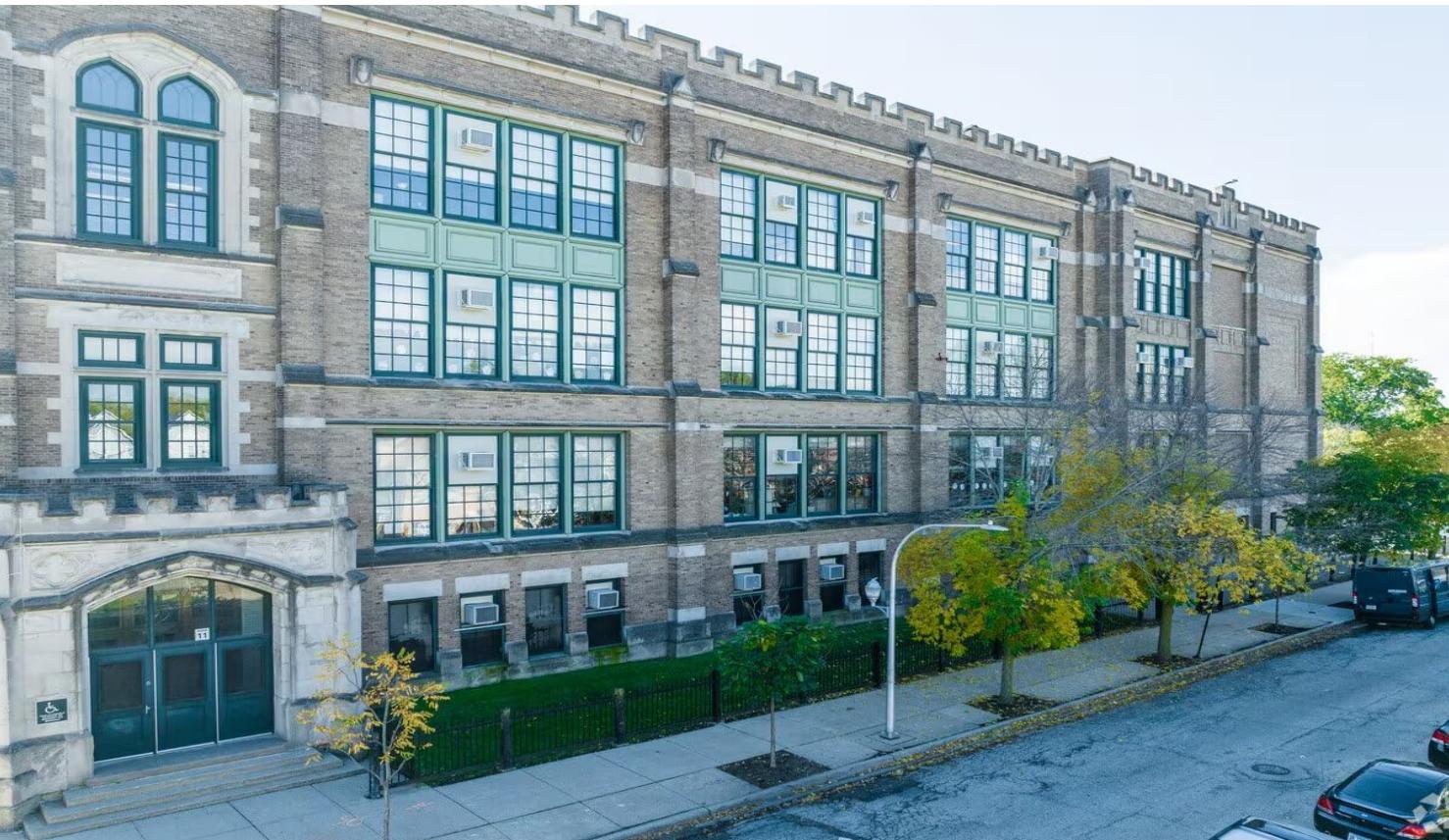


- 4909 N Cicero Ave- located near Beaubien Elementary School
 - 3 Speed Cameras
- 445 W 127th- Brown Community Academy Elementary School
 - 1 Speed Camera
- Top 5 are all near schools graph in appendix



Why 3 Cameras VS 1 Camera

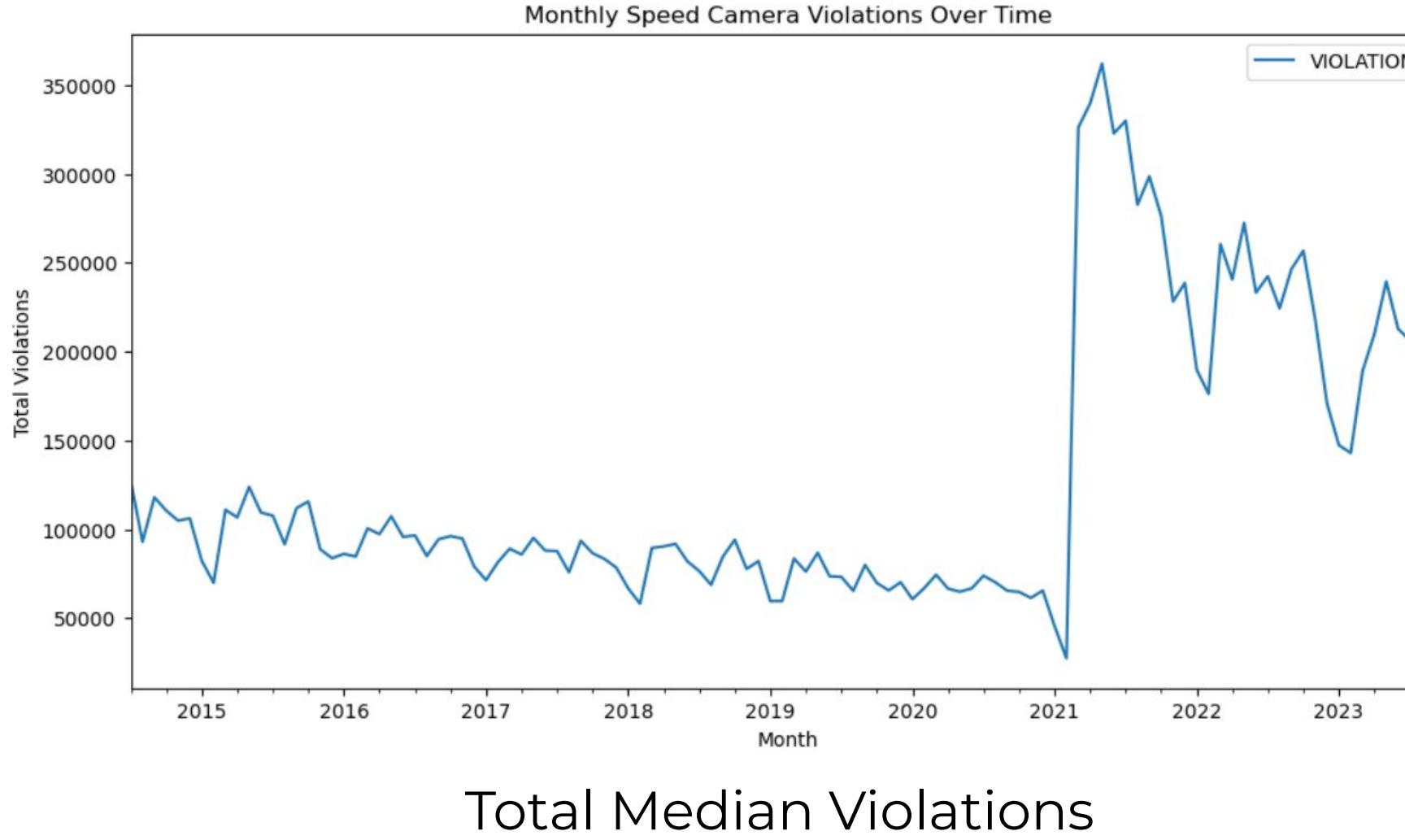
Beaubien Elementary School VS Brown Community Academy



- Focus on Beaubien on left, larger and more data
- Had 3 cameras because surrounded by 3 roads with multiple lanes
- Brown only has one smaller street next to it hence the single camera



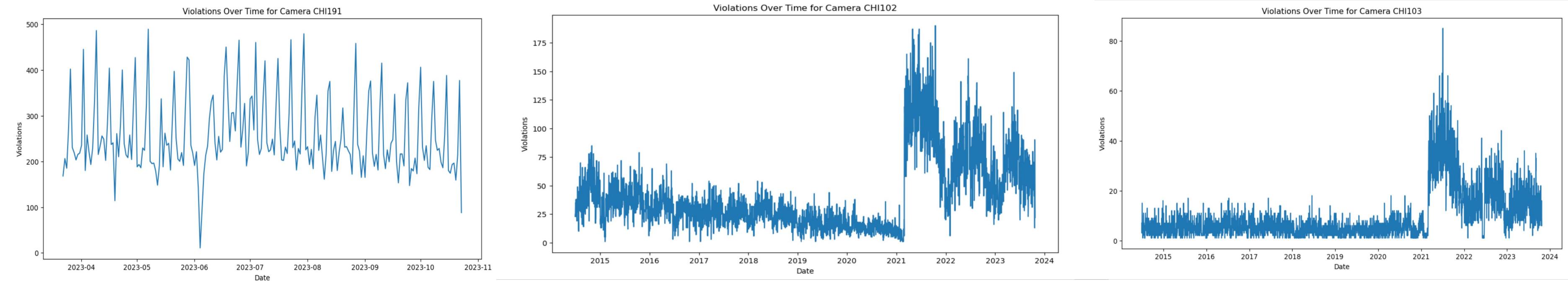
Reduced Threshold Data



- January 2021 ticket threshold reduced from 10 mph to 6 mph over
- City claimed the threshold change was to increase safety
- Cameras were turned off for three months prior to Jan 2021
- All other cameras mimic trend in appendix



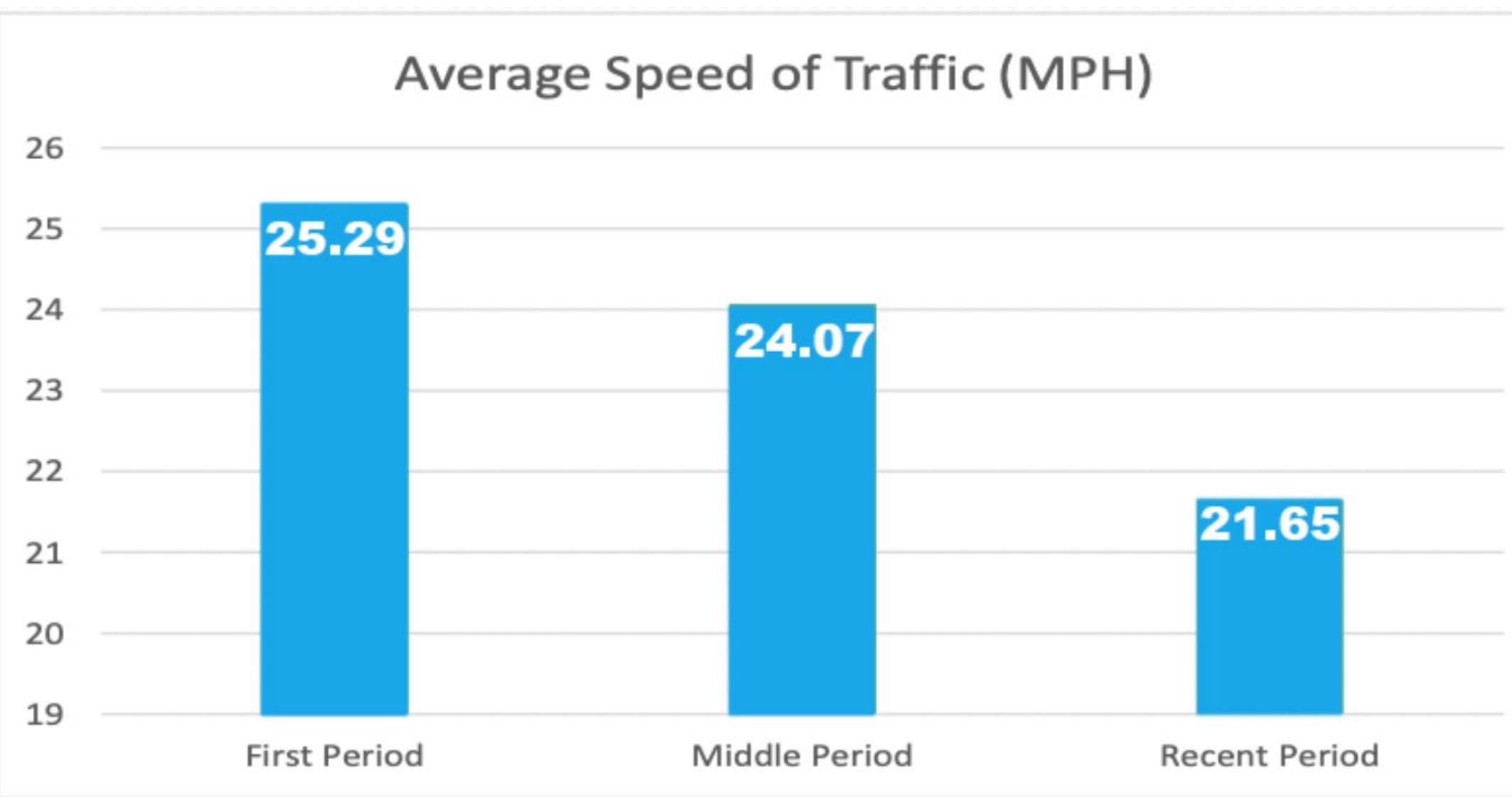
Beaubien



- At 4949 W Lawrence Ave CH191 - newest camera, downward trend
- At 5471 W Higgins Rd CH102 - older camera, downward trend affected by threshold change
- At 5432 W Lawrence Ave CH103 - similar to Higgins
- Median of all cameras looks like the CH102 and CH103



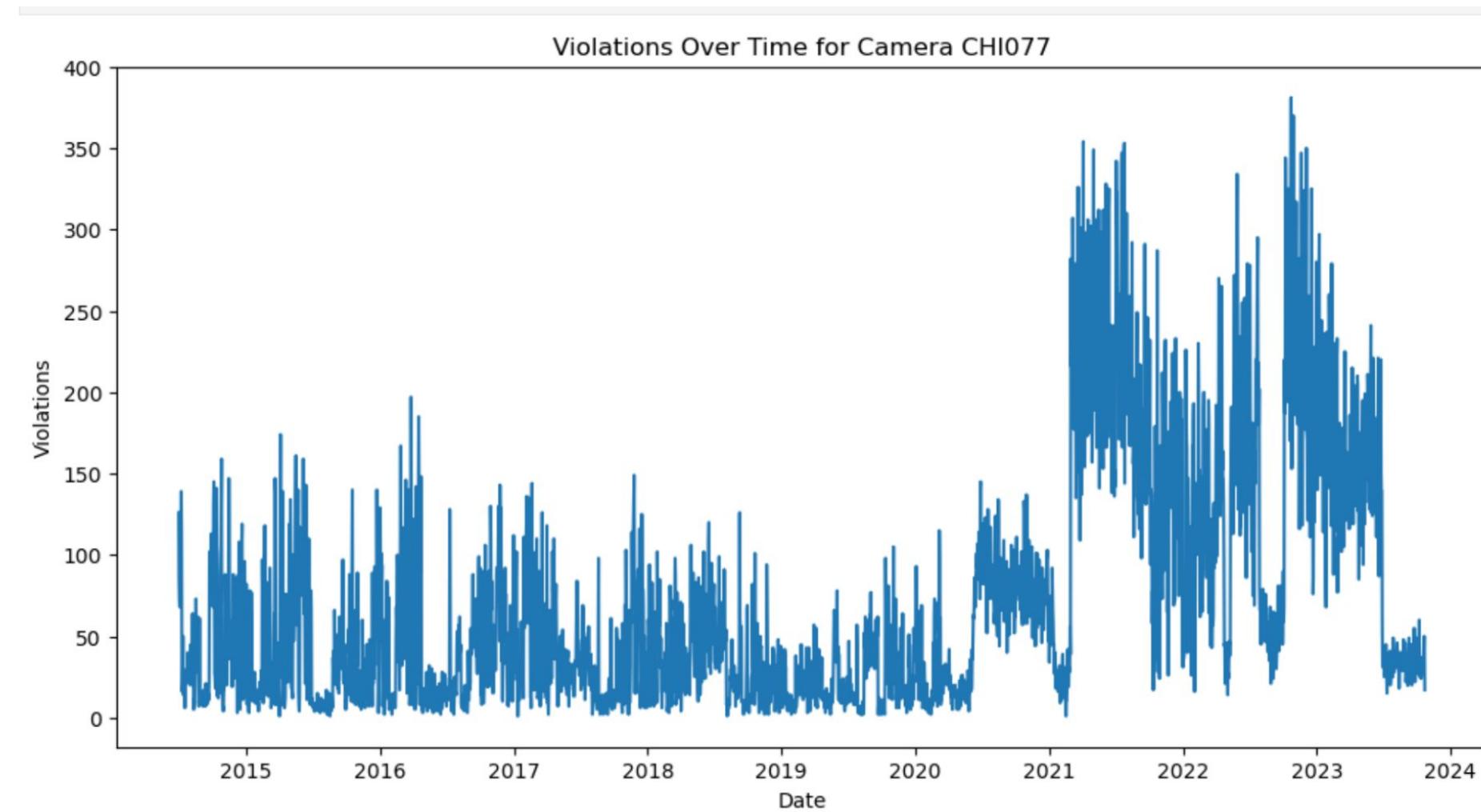
Speeding Threshold Change Results



- First Period – the initial two weeks of enforcement.
- Middle Period – six-months after the Initial Period.
- Recent Period – the most recent two weeks the camera was operational prior to December 31st, 2021
- Speeds go down as drivers become accustomed to the cameras.



Brown Data



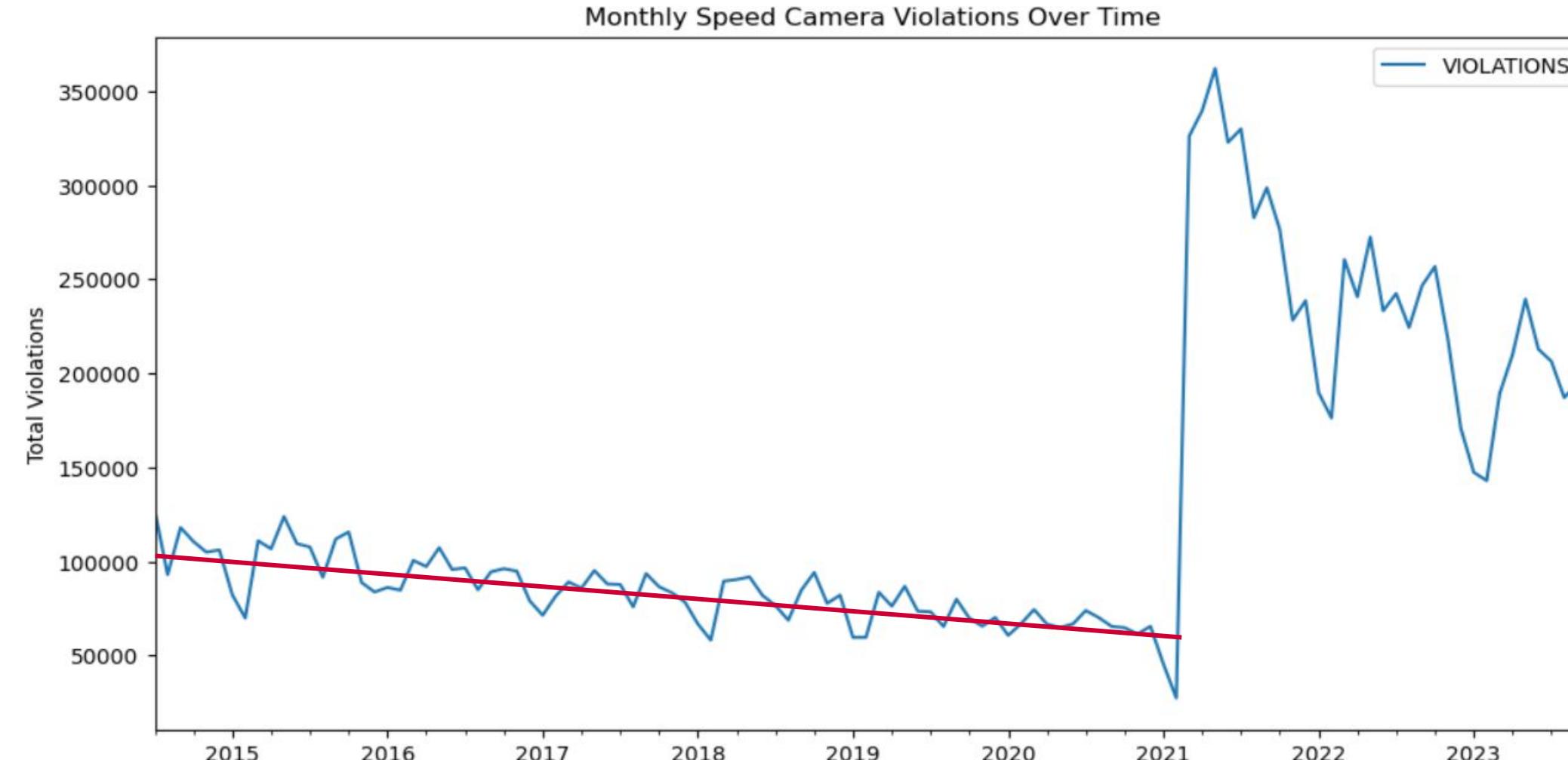
- Brown data follows median trend
- Most data is consistent
- General downward trend even after spike in 2021



Reduced Traffic Violations

In our project we wanted to know

- Do these cameras consistently decrease the overall number of traffic violations?
- Now we can say: Yes
- Linear decline -
 - Frequent people know of the speed camera location
 - People consciously slow down
- Trendline - Helps visualize **downward trend in data in specific areas** and provides best fit line. This can emphasise the value of the investment. A trendline of the whole graph may be misleading and go up overall due to the sudden spike.



Reduced Speed and Lower Injuries: Causation



- **Can't directly associate the decrease in violations to also mean a decrease in pedestrian injuries**
- According to the Department of Transportation, the risk of death for a pedestrian hit by a car increases significantly, even with minor increases in speed.
- It reports that a pedestrian hit by a car driving 23 miles per hour—a typical speed in a school zone—has a 10% risk of dying. At 32 miles per hour, the risk increases to 25%. If a car is moving at 58 miles per hour and hits a pedestrian, their risk of death is 90%
- Therefore, if there are less violations, speed is going down on average, which likely means that people are less likely to be injured
- This is not a guaranteed causation, but it is most likely that injuries also are going down (need data to be certain)

Our Verdict:

**Speed cameras are effective in
decreasing speed, which most
likely increases child and
pedestrian safety.**



Works Cited

https://www.chicago.gov/city/en/depts/cdot/provdrs/automated_enforcement.html

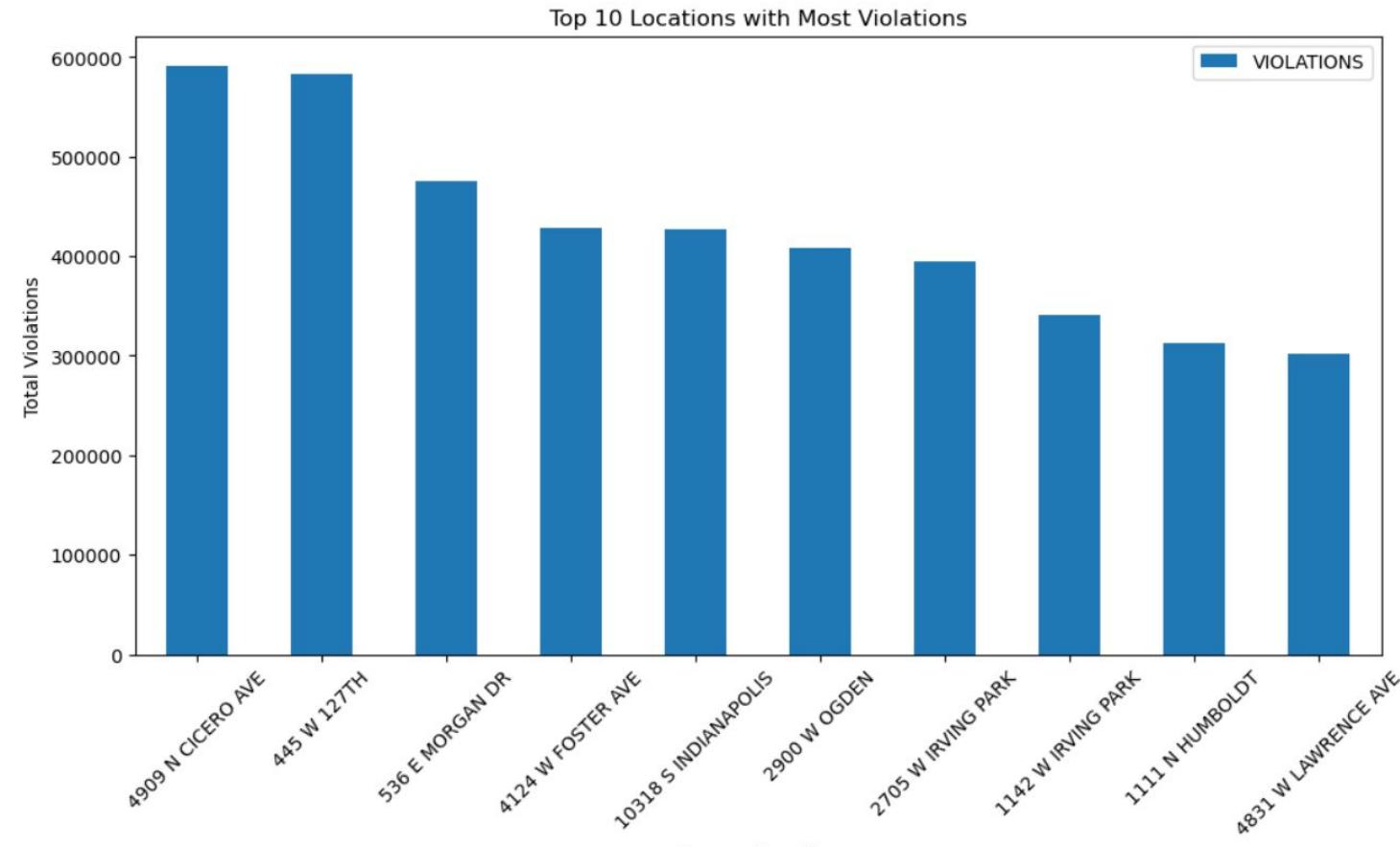
https://www.chicago.gov/content/dam/city/depts/cdot/CSZ/2021/ASE_Before-After_2018-19_Write-Up_and_Full-Table_COMBINED.pdf

https://www.chicago.gov/content/dam/city/depts/cdot/Red%20Light%20Cameras/2023/2021_AE_Report_FINAL.pdf

Appendix



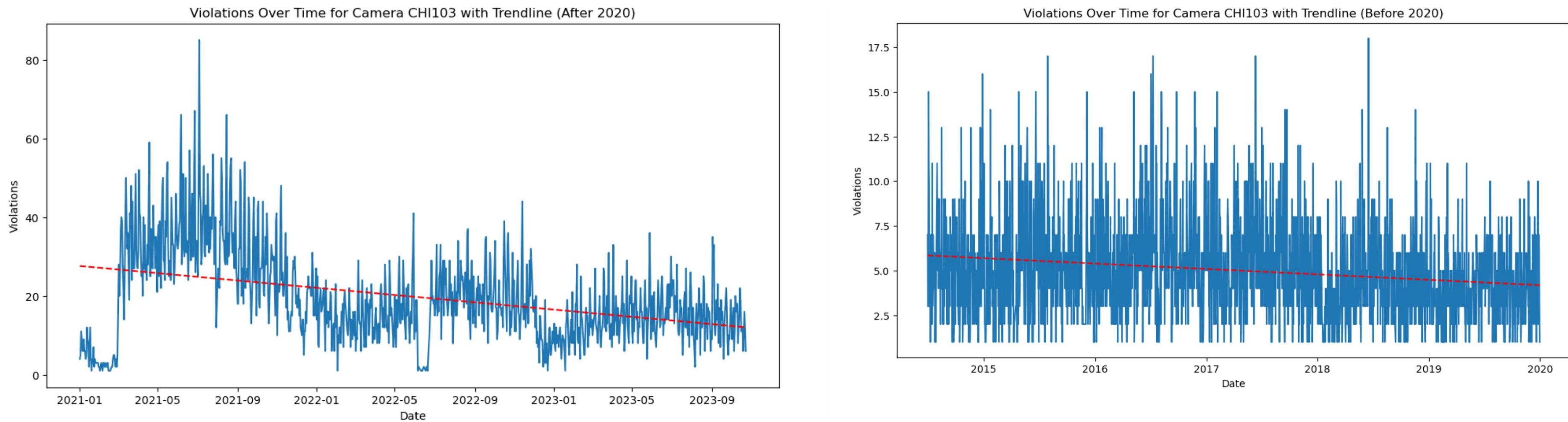
Top 5 Violation Locations (Appendix)



- 4909 N Cicero Ave- located near Beaubien Elementary School
- 445 W 127th- Brown Community Academy Elementary School
- 536 E Morgan Dr- located at Bynum Island
- 4124 W Foster Ave- next to a lagoon and the N Chicago River
- 10318 S Indianapolis- Matthew Gallistel Language Academy



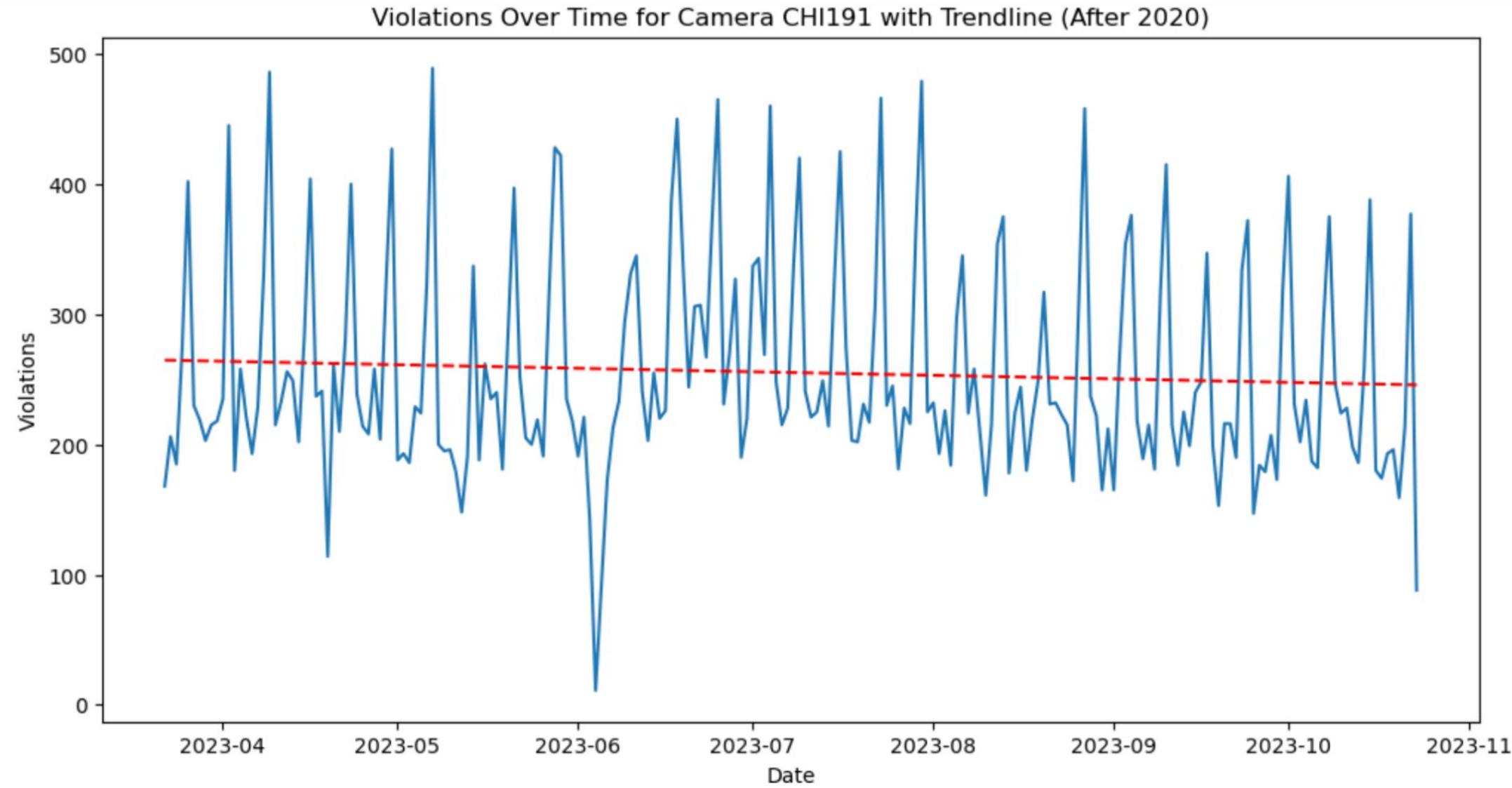
Beaubin Data Continued



- At 5432 W Lawrence Ave
- Shares same trend as camera in presentation
- Post 10-6mph threshold



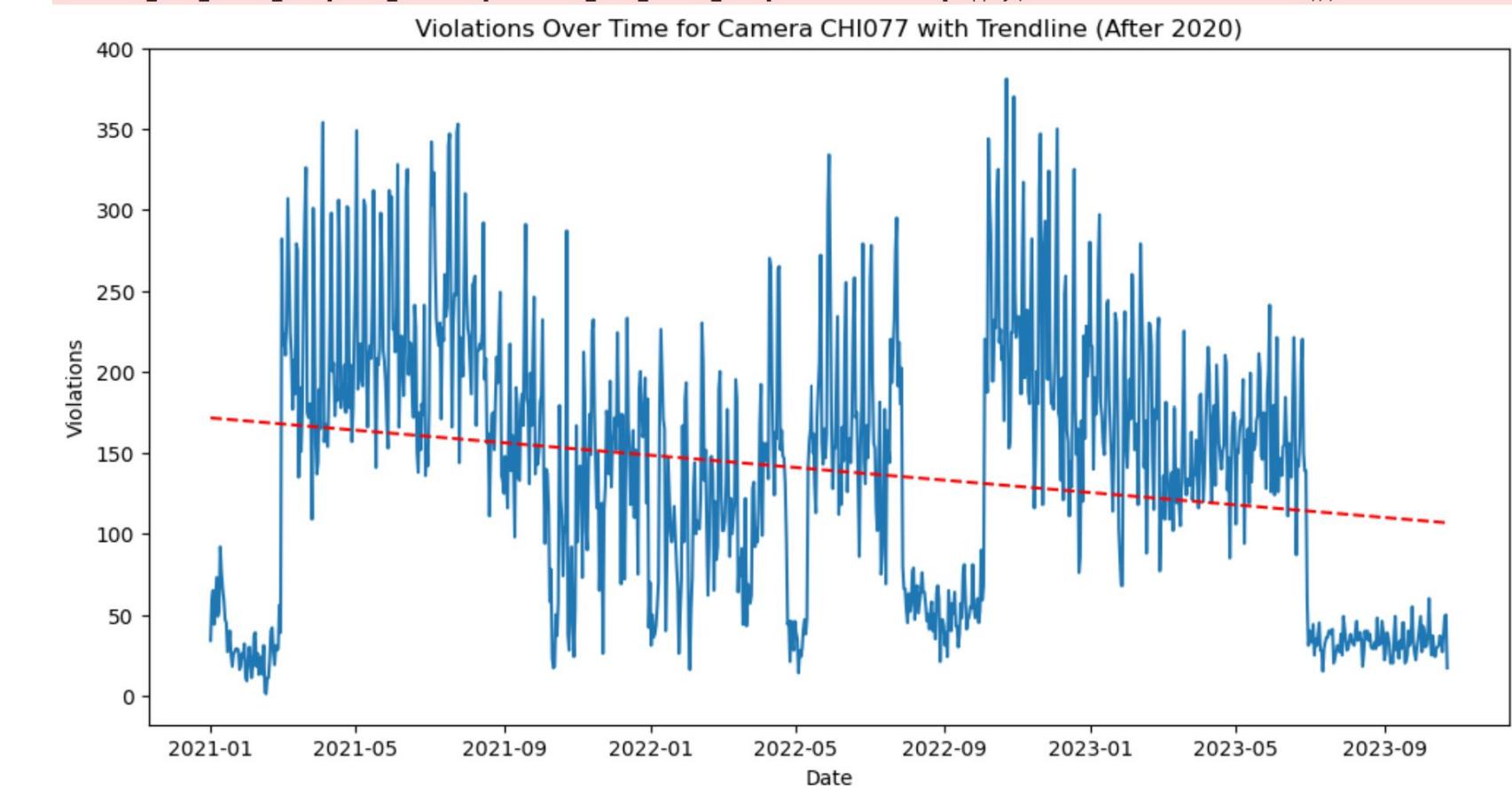
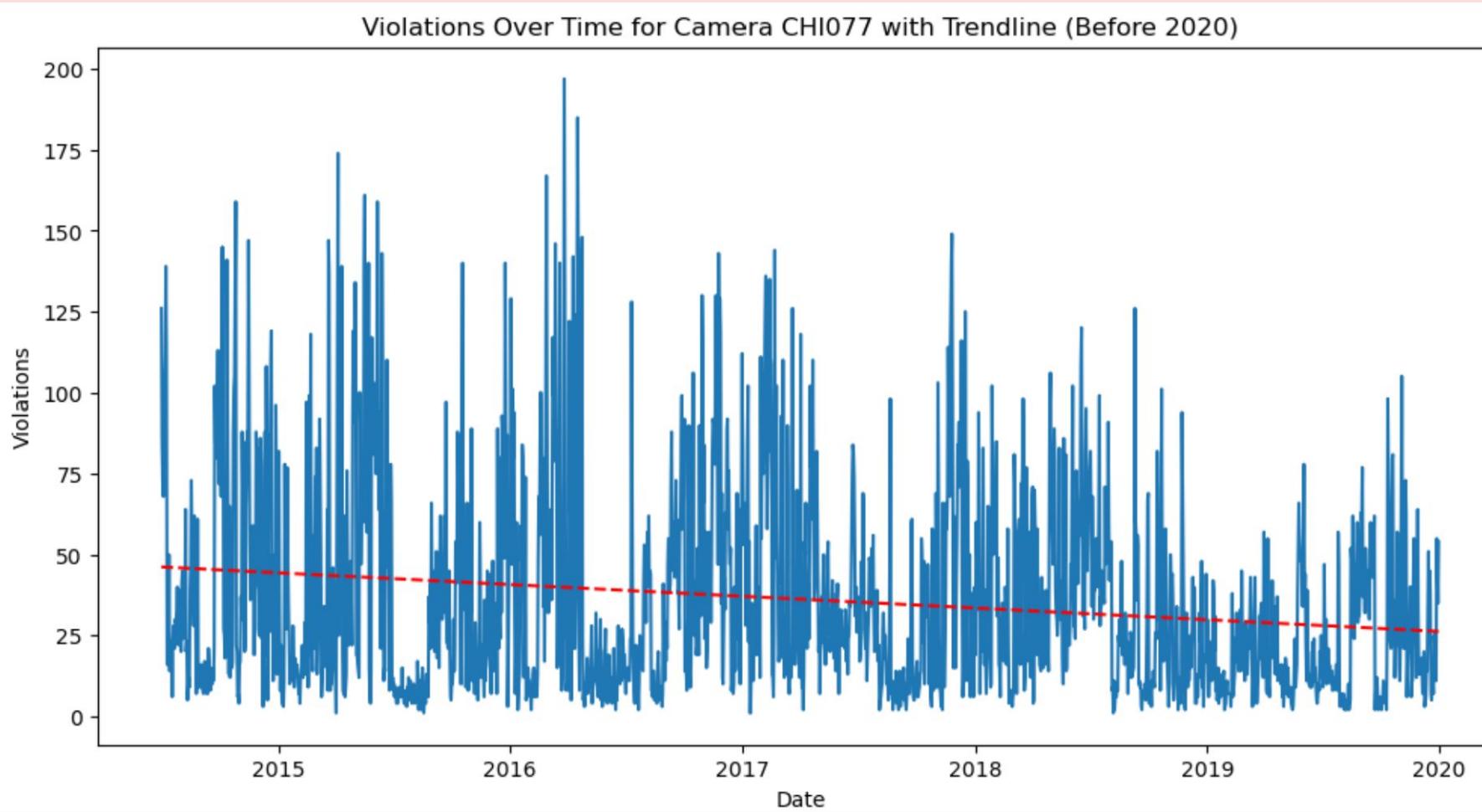
Beaubin Data (Appendix)



- At 4949 W Lawrence Ave
- Shares same trend as camera in presentation
- Newest Camera, slightly downward trend



Brown Covid Data (Appendix)



- At 5471 W Higgins Rd

