# Frequently updated: progressive timeline

(not going to be included in the final datastory, but just for visualization while working)

<https://docs.google.com/spreadsheets/d/18zk6VEPWSuXnk1ER6j4yGkMgHrYaJEiiZbSUyAJThZg/edit?usp=drive_link>

# Components/Outline of the data story

1. Overview of SEJA
2. Overview of the community need
3. Key questions raised
4. Analysis key findings
5. Why important and how it can address the community’s need
6. Conclusion
7. Actions required

# Glossaries

*PM 2.5*: PM 2.5 tands for Particulate Matter 2.5, which describes fine inhalable particles, with diameters that are generally 2.5 micrometers and smaller.

*Manganese*: a mineral that your body needs to stay healthy

*Ethylene oxide*: Ethylene oxide a colorless and flammable gas with a faintly sweet odor; an organic compound with the formula C₂H₄O.

*Cobalt*: Cobalt is a chemical element; it has symbol Co and atomic number 27

*Ammonia*: Ammonia is a colorless highly irritating gas with a sharp suffocating odor

*TBC..*

# Initial Findings

Based on our current dataset and smart questions, we have gathered the initial findings as followed:

Initially, we acquired a map monitoring water and air quality to assist in addressing Smart Question 1. Notably, the majority of pollution sources are concentrated around Roosevelt Highway particularly from companies such as Owens Corning, Winland Foods Inc., and Nestle Purina PetCare Co, with a significant impact on the nearby communities.

Furthermore, upon identifying the area with the highest concentration of pollutants, we conducted an analysis to determine the specific constituents of these pollutants. For water quality data, this includes On the other hand, the air pollutants we found encompass ammonia, xylene (mixed isomers), styrene, toluene, phthalic anhydride, and n-butyl alcohol. These pollutants have the potential to cause severe health issues, including respiratory diseases that can manifest as coughing, wheezing, and difficulty breathing, which may exacerbate pre-existing respiratory conditions. Some of the compounds may also pose a risk of long-term effects, including liver and kidney damage, and could potentially contribute to the development of cancer. In addition, the cumulative effects of water and air pollution can give rise to developmental challenges, such as food deserts, which impede the well-being of individuals residing in affected regions.

To substantiate this trend and to elevate awareness, our next steps will involve analyzing the water quality and air samples we have gathered and contrasting them with national benchmarks. The comparison may reveal additional insights and draw increased attention to the environmental issues in these areas.

# Overview of the Community Nee:

The community, represented by the Southeast Environmental Justice Alliance (SEJA), faces multifaceted needs spanning various domains. Primarily, there's a pressing need for a healthier and more sustainable local environment. Their goal is to identify environmental problems, ranging from air pollution to water quality, conservation, and toxic waste, and use scientific data and expert input to present solutions. According to their website, their concerns include

the proliferation of fast-food restaurants, littering exacerbated by the prevalence of 18-wheelers, and a desire for increased green spaces to mitigate urban challenges.

Additionally, SEJA grapples with safety issues such as speeding and worries about the welfare of local wildlife. Environmentally, they work hard to reduce the emissions from diesel trucks, the pollution of storm drains and creeks due to littering, and the unpleasant odor in the air. Furthermore, their concerns were directed toward facilities like XPO Logistics-JLG, Linde Gas, LLC, B&B Construction Processing, and Clean Earth, suggesting a need for enhanced oversight and mitigation measures to address the environmental impact of their operations.

These facility locations serve as point-source polluters, contributing to environmental degradation that impacts air, water, and soil quality in the surrounding areas. Specifically, diesel trucks' emissions exacerbate air pollution, leading to a foul odor permeating the air. This pollution raises concerns about the contaminants present in the air and water, prompting questions about the extent of violations occurring at these facilities.

# Solution

Our team is therefore to help them identify this information regarding pollutants present, their harmful effects, and what actions can be taken to mitigate them. We also need to uncover the transparency regarding the nature of pollutants, identifying severe violations, and implementing measures to rectify them, as the community strives for a healthier and safer environment.

# So What & Benefit

This research process will help us better understand and inform the community with correct information on the pollution plants and locations. These point-source polluters not only degrade air, water, and soil quality but also pose risks to public health and well-being, such as respiratory issues and mental issues. Without information and action, the community remains vulnerable to the harmful effects of pollution. Recognizing these issues and implementing solutions is therefore critical to the well-being and sustainable development of communities.

# Smart Goal:

Specific: Our goal is to identify specific industrial plants contributing to water and air pollution in targeted areas within the community represented by the Southeast Environmental Justice Alliance (SEJA).

Measurable: We will conduct thorough assessments using scientific methods and data analysis to pinpoint the sources of pollution in the designated areas. This will involve quantifying pollutant levels in water bodies and air samples and correlating them with potential industrial sources. Measurable variables will include geographic coordinates (e.g., latitude and longitude) and the concentration of chemical pollutants.

Achievable: By harnessing partnerships with environmental agencies, local authorities, and community stakeholders (such as the University of Georgia and the United States Environmental Protection Agency), we will gather necessary data and conduct site investigations to accurately identify pollution sources. We will ensure that our resources and expertise align with the scope of the project. Additionally, we will utilize tools like GIS to present findings and make sure that our audience can easily understand what we are doing and how we do that.

Relevant: Tailoring solutions to community needs, our SMART goal should prioritize solutions that meet the unique needs and preferences of the local community represented by SEJA. This may involve conducting community surveys, hosting town hall meetings, and actively involving community members in decision-making processes. Also, throughout the implementation of our plan, we must continually monitor its progress and effectiveness in addressing SEJA's priorities. By collecting feedback from SEJA and community members, we can identify any emerging concerns or changing priorities and adapt our strategies accordingly.

Time-bound: Within the next 6 weeks, we will complete comprehensive assessments to identify specific industrial plants responsible for water and air pollution and measure the impact. Progress will be monitored weekly, with a final report and recommendations provided to SEJA by the end of the timeline.

# Smart Questions

1. What are the specific geographic locations, types of plants, and pollutants that are affecting the South Fulton area over time? Which location has the most pollutants so that we can pay extra attention to and inform the community?
2. What do we know from the water/air quality data? And is there any correlation between water quality, air, and pollution factors over the years?