

# HIA of Ford BlueOval SK Battery Plant in Glendale, KY

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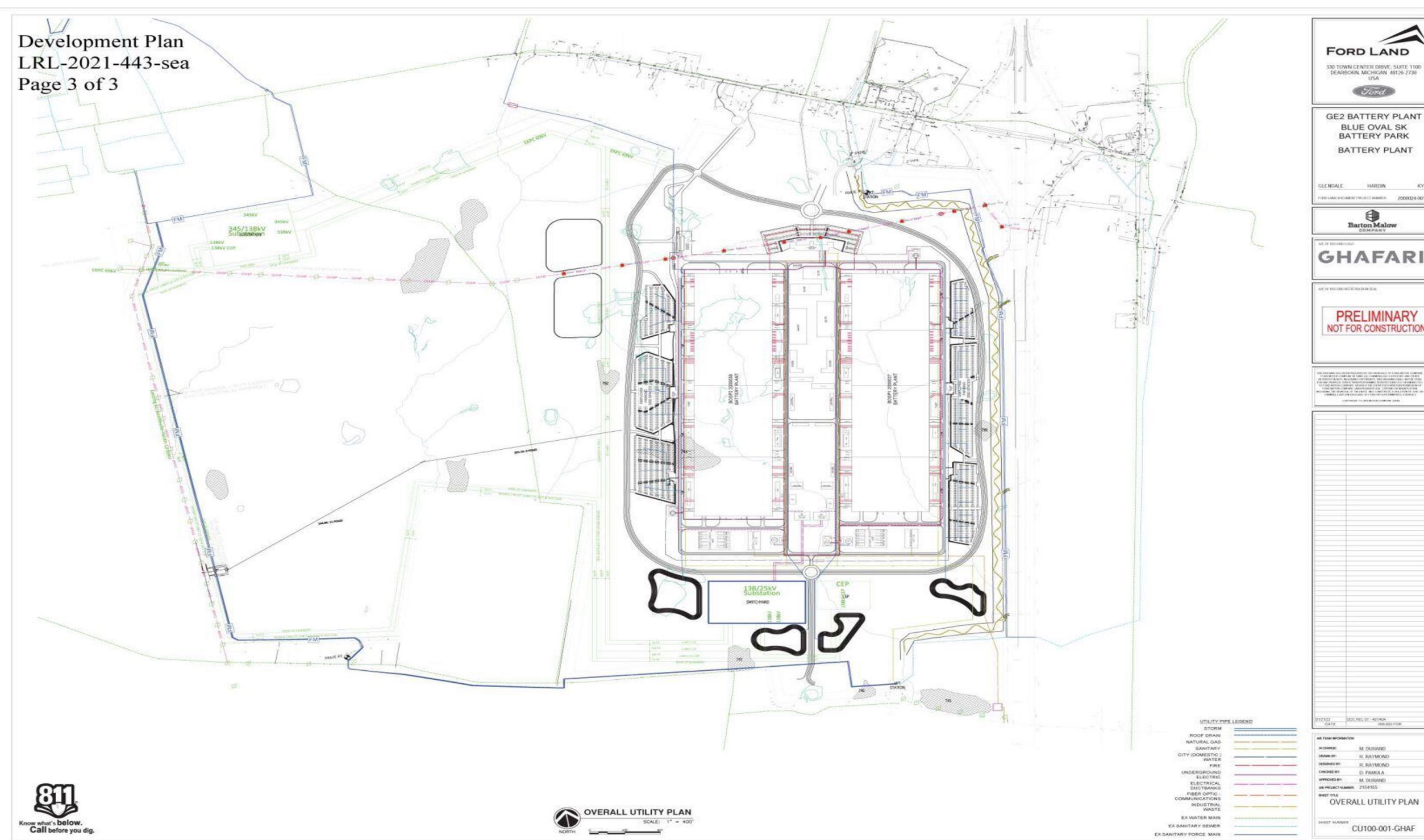


## College of Public Health

Epidemiology and Environmental Health

## Introduction

The Ford Motor Company and SK Innovation Co. developed a partnership to build the BlueOval SK Park, a 1,500-acre battery manufacturing park with two battery plants in Glendale, Kentucky, within Hardin County (Ford Media Center, 2021). The first battery plant is under construction and is set to begin production by 2025, and the second plant is planned to open in 2026 (Watkins, 2021). The BlueOval SK Park will produce lithium-ion batteries to power future electric Ford and Lincoln vehicles and is the largest individual project with significant financial investment at around 5.8 billion dollars in the state of Kentucky (Ford Media Center, 2021). The battery park will create over 5,000 permanent full-time jobs (Watkins, 2021). We conducted a rapid HIA to examine the plant's potential impacts and how it might affect public health within the community and the surrounding environment.



Ford Motor Co. submitted a development plan to the U.S. Army Corps of Engineers, Louisville District, for the BlueOval SK Battery Park in Glendale, KY.

## Methods

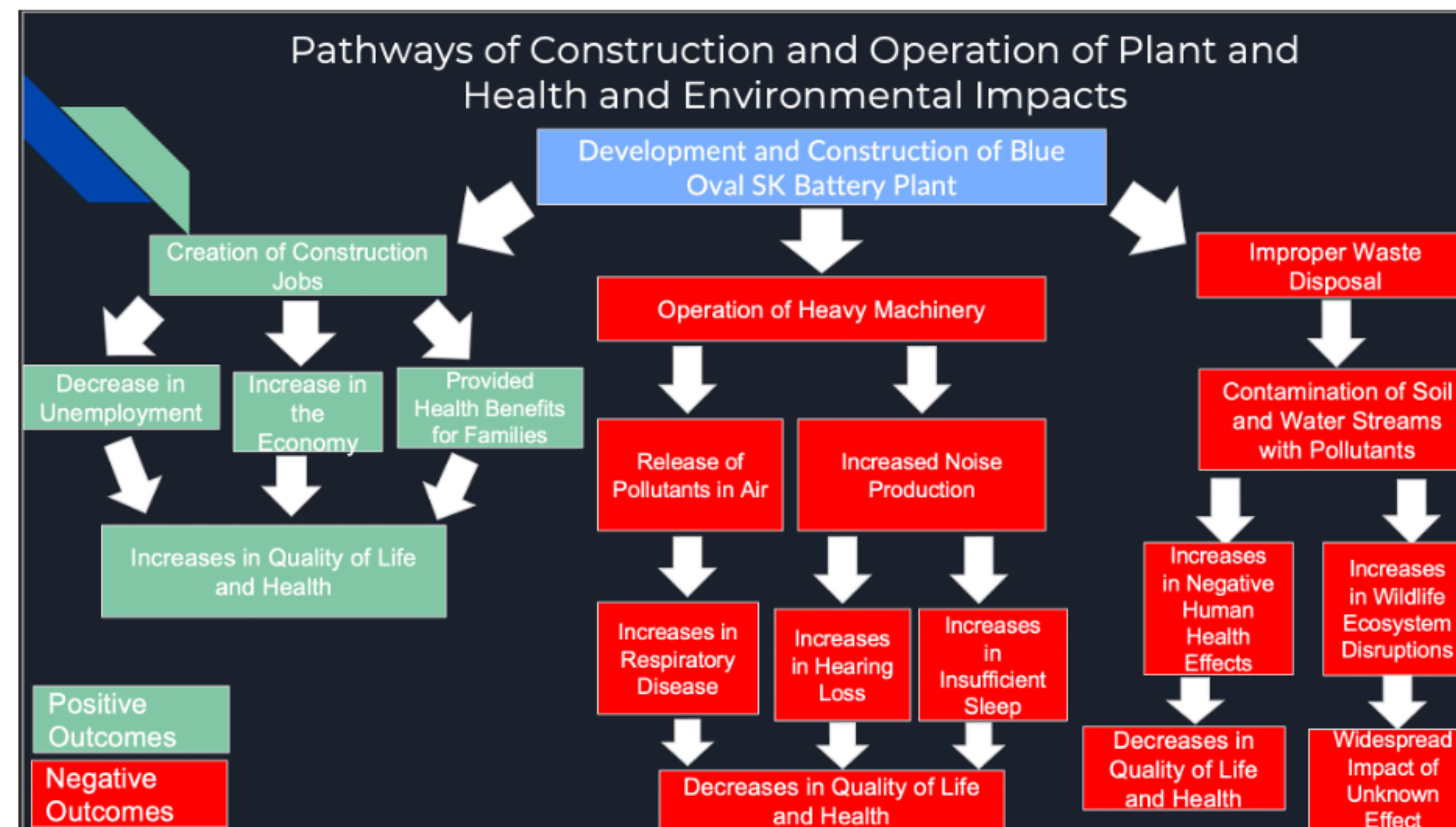
Health in all Policies is a strategy that strengthens the link between health and all policies across all sectors to improve the health of all communities and people. A Health Impact Assessment or HIA is one of the main strategies we can use in Health in all Policies, offering a comprehensive approach to health and applicable in a broad range of decision-making contexts. An HIA is a science-based assessment and a six-step process that investigates how a proposed policy, plan, program, or project may impact a particular community at the individual and population levels, looking at both positive and negative effects. In this case, conducting a rapid HIA on the Ford BlueOval SK Battery Plant, a plant as significant as this, could have both benefits and consequences for the community and the surrounding environment. Our HIA was considered rapid since it was conducted with limited time and resources as a graduate class assignment. While an HIA has six steps, we mainly focused on four steps: scoping, assessment, recommendations, and reporting.

### Hardin County Existing Health Information in 2021 (County Health Rankings & Roadmaps, 2021)

- Glendale population: around 1,700 people
- Hardin County population: around 110,95
- Cancer, the leading cause of death: 392 deaths or 100 per 100,000
- Accidents, the third leading cause of death (any occupational, home, or traffic unintentional accident that results in death): 157 deaths or 50 per 100,000
- Chronic Lower Respiratory Diseases (Pneumonia, COPD, Emphysema, Occupational Lung Disease): 107 deaths or 28 per 100,000
- Insufficient Sleep: 44% (State 42%)
- Adult Smoking: 22% (State 24%)
- Unemployment: 4.1% (State 4.3%)



## Key Findings



We developed this diagram to show three of the numerous possible pathways that can impact the public health and environmental health of the region because of the construction and operation of the Ford BlueOval SK Battery Park.

## Results

### Housing

- Severe housing problems, including housing that lacks utilities or is in disrepair.
- In Hardin County: 13% (State 14%)
- Potential housing insecurity or lack of housing in the area to provide homes to future employees and their families.

### Wages & Benefits

- 5,000 permanent full-time jobs will improve unemployment within Hardin County and provide the employees and their families benefits such as health insurance.

### Noise

- Increases in noise production from the construction, such as using power tools and heavy equipment, could lead to potential hearing loss among the workers and an increase in insufficient sleep for community members living close to the plant.

### Air Quality

- Air pollution Particulate Matter is a mixture of solids and liquids suspended in the air.
- PM Hardin County: 8.2  $\mu\text{g}/\text{m}^3$  (State 8.7  $\mu\text{g}/\text{m}^3$ )
- Pollutants of particulate matter, carbon dioxide, carbon monoxide, nitric oxide, and radon may be released by heavy machinery, welding, and construction and cause further respiratory issues and increasing the prevalence of respiratory diseases.
- Heavy dust from the construction site may impact the air quality around the site and the community, with winds blowing heavy dust around.

### Water Quality & Soil Quality

- No current major or contamination violations.
- Potential dumping of construction waste (dirt, metal shavings, oil, coolant, and hydraulic fluid) into local soil and nearby streams can cause contamination and ultimately lead to adverse human health and wildlife effects.
- Kentucky Fish and Wildlife Department stated that this project would impact surrounding streams and around 16 acres of wetland (Clear, 2022).

### Transportation & Traffic volume

- Traffic Volume is the number of vehicles passing a certain point divided by 365 days for a year.
- In Hardin County: 196 (State 303)
- Due to the influx of people for the construction of this plant, there are likely to be traffic problems and increased traffic volume in Glendale, KY.

## Recommendations & Reporting

### Infrastructure & Traffic Volume

- Expand roadways in the plant's surrounding area to offset increased traffic.
- KY Transportation Cabinet stated that US I-65 and 31W will be prioritized and plan improvements to improve traffic flow.
- There is an opportunity to improve Glendale Hogenville Road and other main roads around Glendale since there may be more wear and tear from traffic than before due to the plant's construction.

### Housing

- The city of Glendale and Ford should partner and work together to help find affordable housing in the area where the plant will be located for future employees and their families.

### Noise Pollution

- Ford and Hardin County/Glendale must implement administrative controls and zoning regulations.
- BlueOval SK Battery Park should invest in sound-insulating material and prioritize sound absorptions in and around the plant itself since it may impact wildlife and potentially increase insufficient sleep, cardiovascular diseases, and psychophysiological effects.

### Environmental Impacts

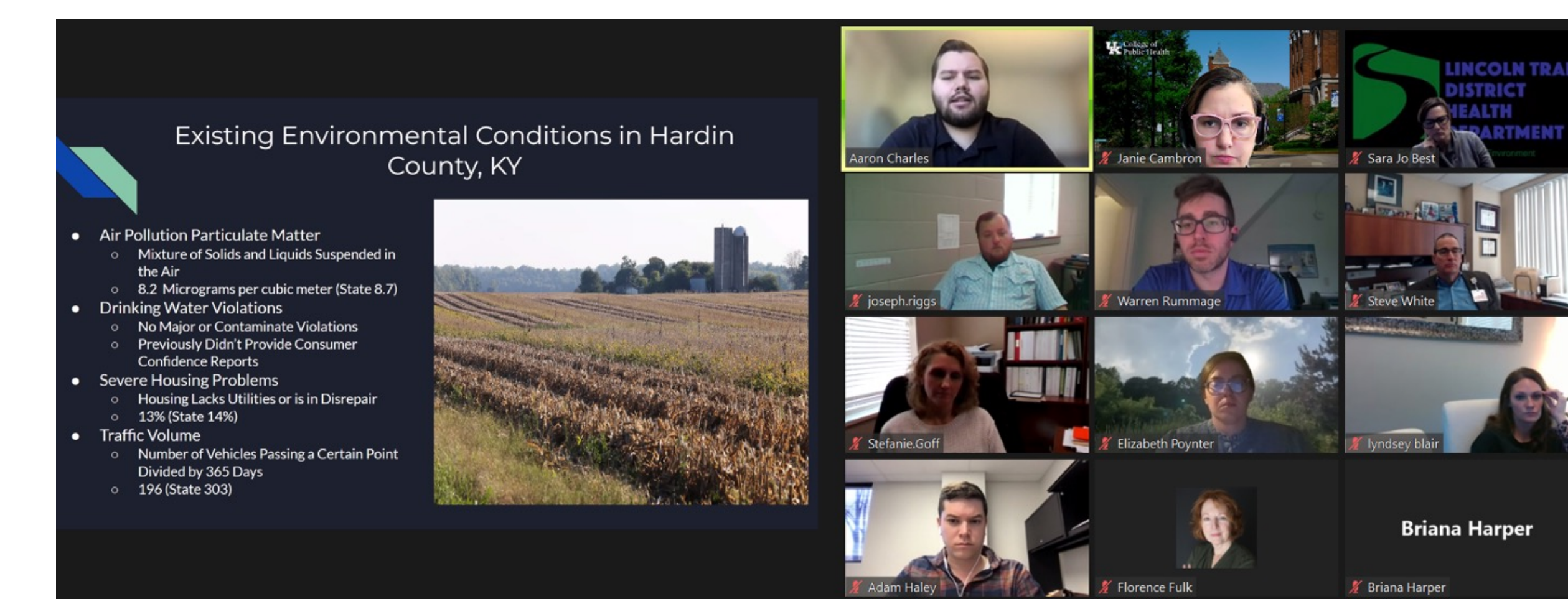
- Subsidize leasing or offer their employees F-150 Lightning EV pick-up trucks to help improve air quality and lessen environmental degradation.
- Recommend making ethical decisions regarding the area's wildlife, plants, animals, and organisms, such as building around the area.
- The plant is projected that the waste stream will generate significant amounts of clean fill in nearby ephemeral and perennial streams and would recommend that the plant find another way to dispose of this waste, such as upcycling or recycling where possible, and dispose of it in a more environmentally friendly way.

### Meeting with the Lincoln Trail District Health Department

On November 22, 2022, we were invited to meet with some individuals at the Lincoln Trail District Health Department (LTDHD) over Zoom. The HD serves six counties, including Hardin County, where the plant is located. We had the opportunity to present the HIA and answer questions.

Afterward, the health department members gave us insight into the progress of the plant's construction and some additional information.

Meeting with the individuals at the LTDHD was an incredible opportunity to present the rapid HIA we did around this battery plant in Hardin County and gain insight from health department members on how they can use the information from this HIA. This meeting is an excellent example of how members of a health department and students pursuing their master's degrees at a university can communicate and share public health information with each other on how a plant such as this may impact the community and the surrounding environment, even the public's health.



This screenshot was taken during the Zoom meeting between individuals from UK and individuals from the health department.

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