

Common Ground to SCSU

Claire Armstrong | Early College Sustainability | February 2025

The DESIGN

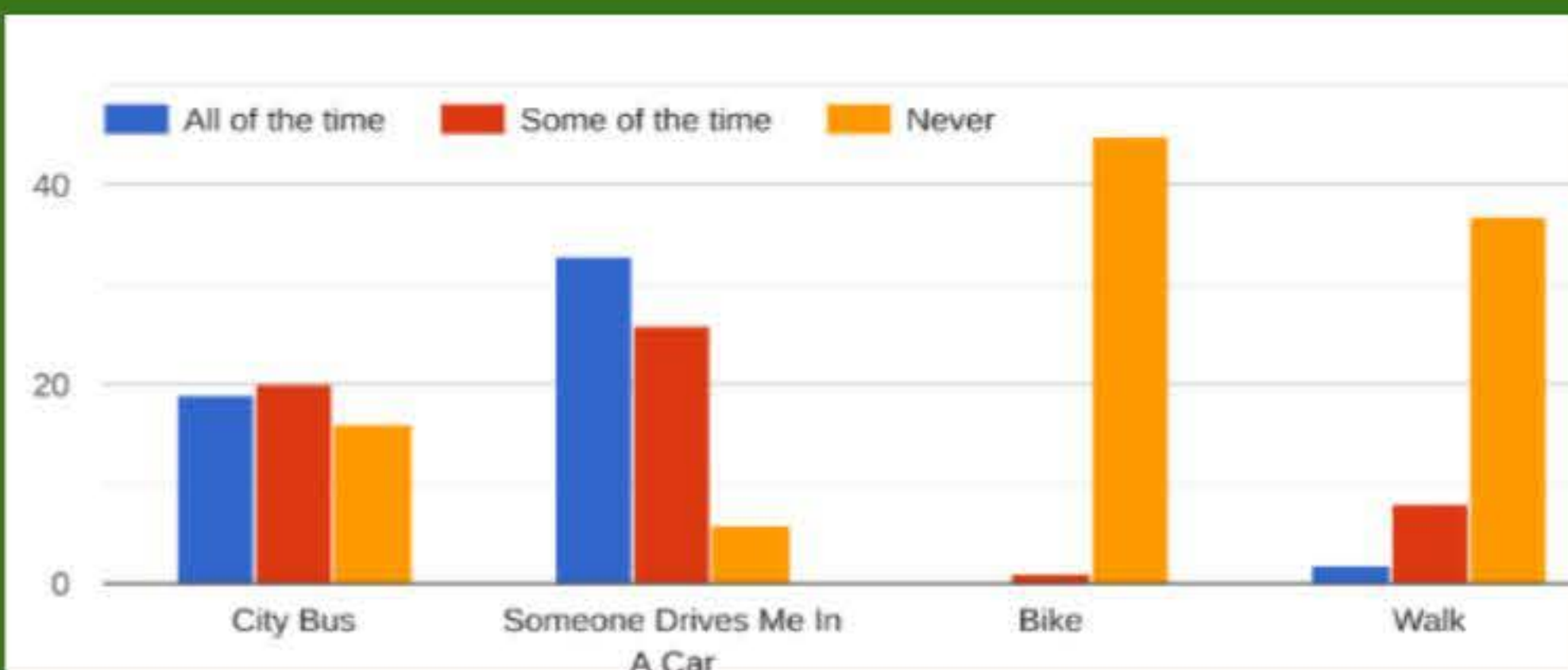
The Sidewalks from Common Ground to Brennan Rogers school and Southern Connecticut State University need to be implemented. The action plan for accelerating the implementation of sidewalks is as follows:

- 1) Put together a “call to action” whether it be a social media movement, email blast and/or speech the pulls the community together.
- 2) The community support to pull attention to the sidewalk implementation through protests, posts and written support to get the city focused on the sidewalks again.
- 3) Be sure to continue pressuring the city till construction begins Plan B:
 - 1) If community support is too difficult to get a hold of move on to a personalized “call to action” directed to at the city officials that are personally responsible for the sidewalk implementation (Engineers, construction leaders, etc...)

The PROBLEM

The issue is the **lack of safe pedestrian transportation** from Common Ground to Southern Connecticut State University, New Haven, and West Rock which makes **students feel unsafe, and puts the residents of these places at risk.**

A plan has been made and accepted by the city of New Haven to implement the sidewalks, however **they have yet to take action.** It is currently still dangerous to bike or walk to Common Ground, and both students and teachers have been injured on their way to school. **The city needs to act now.**



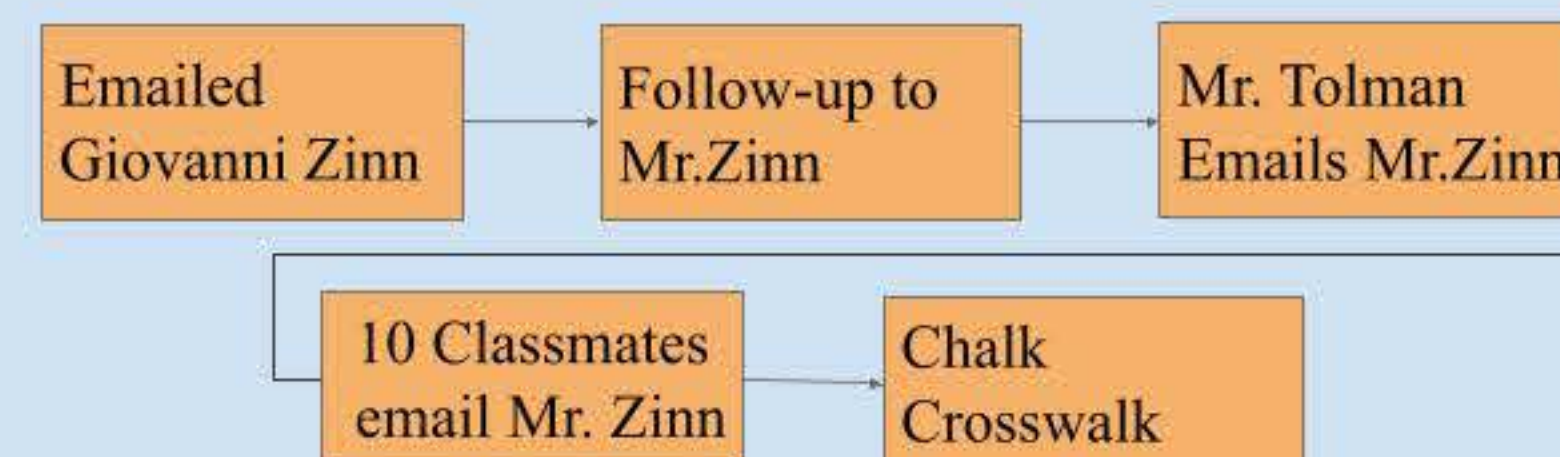
So few students currently walk or bike, we can change that!

Diagram/Model

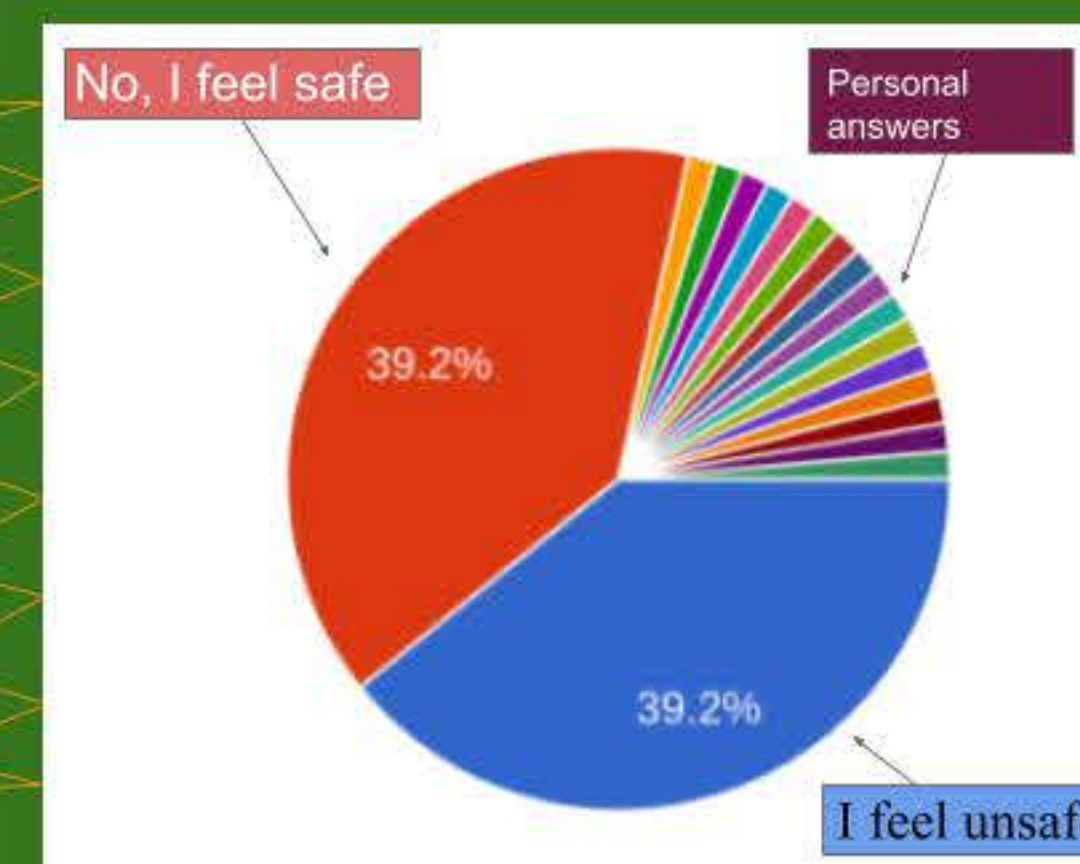


PROTOTYPE IMPLEMENTATION

For my prototype I reached out personally to the city engineer Giovanni Zinn to get an update on the sidewalk plans, and I also drafted a crosswalk made with chalk. The email requested information on the project plans, timeline, materials and the design of the sidewalk. I then sent out a follow up email, unfortunately I have not yet heard back from Mr. Zinn, but this is all in the hope that he will focused his attention back on the importance of the sidewalk installation and will begin construction.



Nearly half the students at Common Ground feel unsafe due to the lack of sidewalks, and while there are currently very few students who walk or bike to school the addition of the sidewalks will certainly encourage them to do so more often.



EQUITY

The absence of safe transportation from Common Ground to SCSU and greater New Haven is a people problem as it is putting staff and students in danger as well as anyone else who attempts to travel by foot to or from Common Ground

ENVIRONMENT

The option of walking instead of riding the bus or driving to and from Common Ground will lower the direct carbon emissions from vehicles. This will lower the pollution going into the atmosphere which will improve the air quality of this area.

ECONOMY

Costs & explanation	Value	Benefits & explanation	Value
The city will pay for and install the sidewalks themselves with the fund provided by the federal government.	Estimated cost to the city \$227,832	Results in less medical expenses, preventing 2 accidents per 10 years at least, and people will be more comfortable traveling through the Common Ground and southern area.	According to the National Highway Traffic Safety Administration (NHTSA), the average cost of medical treatment after a car accident injury is about \$15,000. This is money saved by preventing these accidents

CLIMATE Impact

The installation of sidewalks from Common Ground to Southern Connecticut State University will decrease the direct carbon emissions produced by the students and staff of common ground. Once the sidewalks are properly implemented there will be a safer option for walking and biking to Common Ground which will make it more desirable to all the students who would prefer to walk and have need to safely travel to southern for their early college classes. The estimated impact by project drawdown states that “As cities become denser and city planners, commercial enterprises, and residents invest in walkability, 5 percent of urban mobility can be provided by foot instead of car by 2050. That shift could result in 2.83–3.51 gigatons of carbon dioxide equivalent greenhouse gas emissions and reduce costs associated with car ownership by US\$3.18–3.94 trillion.”

About The Designer

My name is Claire Armstrong and I am a junior at Common Ground High School. I became interested in sustainability when I first joined Common Ground as every year they put more and more emphasis on the importance of our environment and community. I love working on environmental projects and in nature! Just last summer I participated in UCONN’s Conservation Ambassadors Program (CAP) and finished my Rain Garden educational project and presentation! I have also worked with the Urban Resource Initiative planting trees! I’ll be sure to continue looking for ways to improve my environment and community, and I hope I am able to combine my love of the environment with my passion for architecture!

The DESIGN

My project for making better lighting system to reduce electric bill and improve the lightning in classrooms for students and staff:

- **LED lights in classrooms help reduce electric bills and help focus and health of students and staff.** According to the Department of the Energy, LED lights use up to 90% less energy and last up to 25 times longer than the traditional incandescent bulbs.
- **Turning off the lights when not needed** can be a helpful way to reduce electricity cost. We can encourage and enforce teachers to turn off the lights when not needed.
- **Natural sunlight over artificial lights helps** reduce electricity cost as we would be using natural light over the regular lights and it improves student performance. According to Kurani US, at school, kids have been shown to perform far better when they have access to natural sunlight over any kind of artificial light. We can install solar tubes to allow natural sunlight into the buildings.

The Problem

- Common Ground has a limited budget due to the funding freeze by president Trump. To fulfill the needs of the school Common Ground needs to control their cost. Common Ground had spend up to \$54,200 on electricity bill annually.
- According to a survey taken from Common Ground students showed that about 66% of the students complained about the problems with the electricity within the buildings.

LIGHTS BECOME A PROBLEM!

Name: Sana Salimi | Early College Sustainability | March 2025



OFF

PROTOTYPE IMPLEMENTATION

- LED lights help reduce electricity cost in Common Ground. Due to freeze of funding Common Ground is facing challenges; reducing some of the costs might be helpful for CG budget. By putting LEDs in CG it will reduce the electric cost. Common Ground already has LED proposal plan from the Environmental Partnership Co. The total project cost \$45,552 and can save **\$5,620 annually.**
- Most of our classrooms in the Springside Building has access to **natural sunlight**, therefore we should encourage and enforce teachers to turn off the lights when not needed. Therefore, by making **signs** with logical and scientific details and putting them in the classrooms can be helpful in reminding teachers to turn off the lights.
- Having windows and accessing natural lights can help improve students performance. Due to the fact that we have access to enough sunlight in the Springside building. however, we still need access to natural sunlight in the Hilltop Building and farmhouse ,for which we have to install windows in the building. However due to the high cost of the windows and not having perfect space to install window we can install solar tubes (a daylighting system that uses a reflective tube to channel sunlight from the roof into a room, providing natural illumination), which are affordable and a good source to access to natural sunlight.

CLIMATE IMPACT

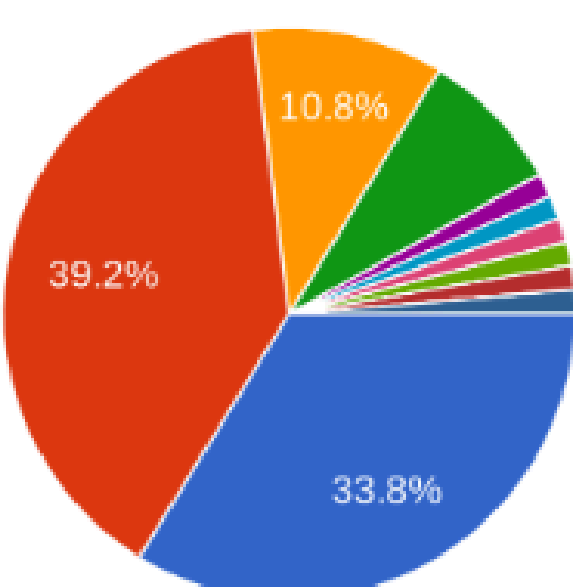
Converting to LED lightning can have a huge impact on climate change. Common Ground produce 40,425 KG of carbon monthly and 485,100 Kg of carbon annually. According to the United Nations, most electricity is still generated by burning coal, oil, or gas, which produces carbon dioxide and nitrous oxide – powerful greenhouse gases that blanket the Earth and trap the sun's heat. However, Common Ground LED lights proposal project with Environmental Partnership Company will reduce its annual Carbon Dioxide (CO2) emissions by 44,005, its annual Sulfur Dioxide (SO2) emissions by 41, its annual Nitrogen Oxide (NO2) emissions by 34, and its Mercury (Hg) emissions by 151. Converting into the LED lights can be one of a helpful way of fighting against the climate change as small steps can bring huge changes.

About The Designer

My name is Sana Salimi. I am a junior at Common Ground high school. I wanted to focus on electricity because in the course of this class I learned that electricity is a major issue while can be solved or the issues caused by it can be reduced by taking small and easy steps.

Sources:

- United Nation. "Causes and Effects of Climate Change" <https://www.un.org/en/climatechange/science/causes-effects-climate->
- Department of Energy "Lighting Choices to Save You Money". <https://www.energy.gov/energysaver/lighting-choices-save-you-money#>.
- Kurani.us. "How Your Lighting Design Affects Student Health, Happiness" <https://kurani.us/school-lighting-design-affects-health-happiness-performance/>.



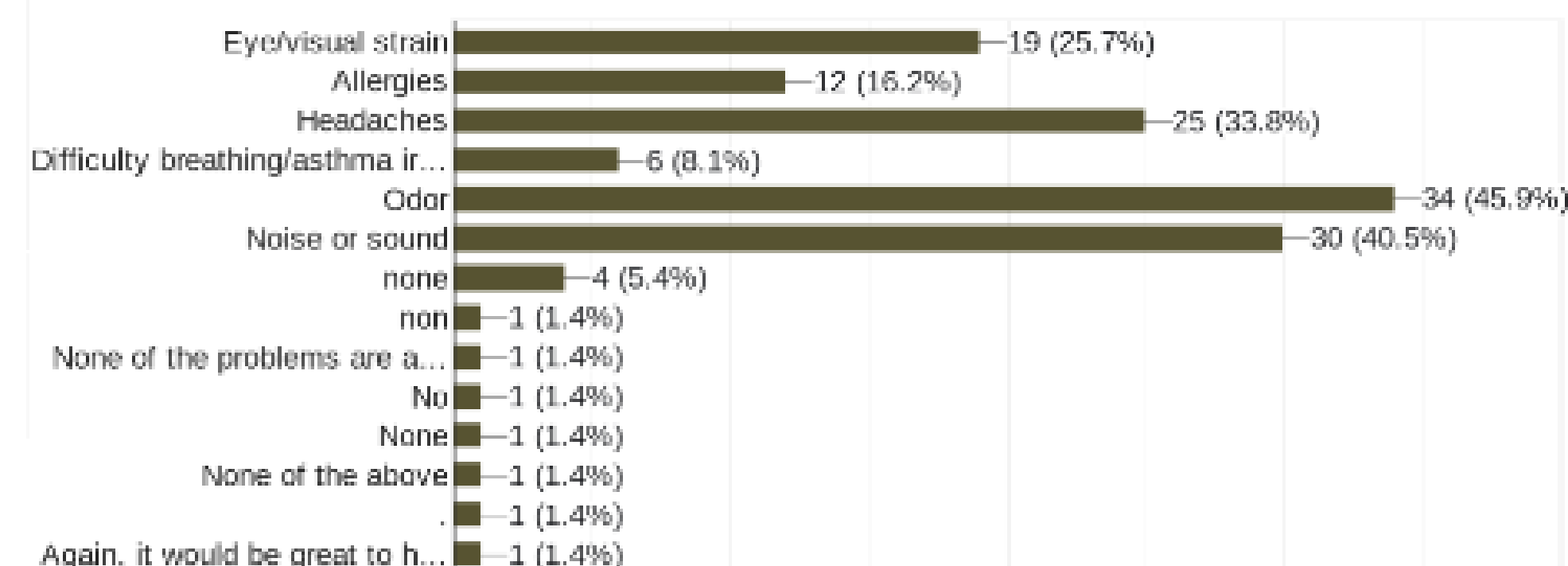
- No, the lights are fine
- Sometimes the lights are too bright or...
- Regularly it's too bright or too dim
- It's always too bright or too dim
- TOO BRIGHT
- its usually to bright
- Not for me but I have heard others sa...
- Too bright: I always teach with lights o...

▲ 1/2 ▼

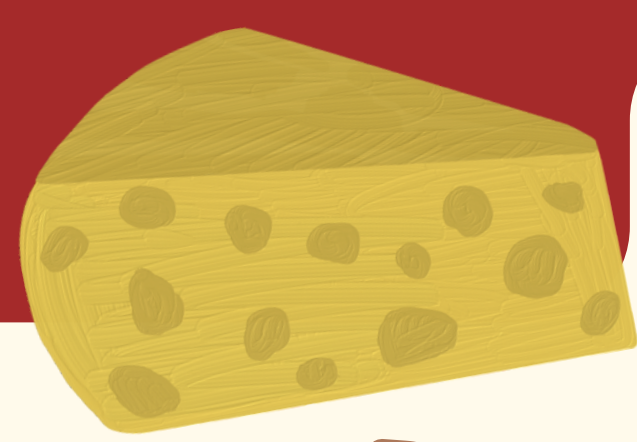
Student survey showed that most of the students in Common Ground are not satisfied with the lights

Are any of the following a consistent problem for you in Common Ground's Buildings? Check all that apply.

74 responses



A survey from Common Ground students shows that 33.8% of students get headaches



Why is there food on the floor?

Kris Lebron Romero | Early College Sustainability | March 2025

The Design

My idea on reducing food waste at Common Ground is by implementing a share table in our cafeteria where people can donate or put perfectly good food they have no use for or simply don't want on it. This food can later on be collected by organizations who receive food to give back to those who need it, addressing food insecurity in the community while also reducing how much methane we are producing. This table would be placed in the cafeteria since this is where all the food is dealt with and could be picked up at the end of every day. This food could also then be transported to the nearby neighborhood so that we wouldn't be producing much CO2 with transportation.

The Problem

We have a lot of food and meals in our school as well as the trays of food during lunch that are filled with good food because a lot of people simply don't want it. By throwing this food out it is then sent to the incinerator and produces a large amount of methane. Methane is 28 times worse than carbon dioxide as well - making the large environment impact we cause even worse. It is also us wasting something we could use to reduce the food insecurity rates in our community.

As a nation we waste upwards of 40% of food we produce¹

however

34 Million American are Food Insecure²



Prototype Implemation

I would collect data on this experiment by using a scale to see how many pounds of food ends up on the table per day and multiply that amount by 3.8, since 1 pound of food is 3.8 pounds of methane, to then see how much methane was prevented from being put into our environment as a collective community.

Weekdays	Mon	Tue	Wed	Thu	Fri
Pounds of food					

Sources: <https://www.havensharvest.org/>
<https://drawdown.org/solutions/reduced-food-waste>

People/Equity
Everyone who needs food would be benefiting from this.

Planet/Environment
It would reduced the negative impact our community has on the environment

Profit/Economy
It wouldn't cost anything to do this, more of a collective cooperation

Climate Impact

This project would be diminishing the amounts of methane we produce. As a school and improving the general climate impact we have on the environment as a collective community, while also working towards building equity in our community - killing two birds with one stone. Project drawdown has seen that if we all collectively work towards reducing food waste we can reduce 88.50 to 102.20 gigatons of carbon dioxide by 2050.

About the Designer

My name is Kris and I am a 16 year old junior at Common Ground High School. I wanted to focus on food waste in my school because I have interned at a food recovery organization before and I wanted to apply what I learned there to my school.

