

Researching the Daily Struggles of Older Pedestrians

*Tyler Chow, Ishrat Sajjad, Keshley Toribio,
Andrew Garcia*

Date: August 15, 2024

Introductions:



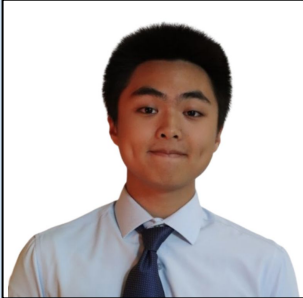
Ishrat Sajjad

Manhattan Center for
Science and
Mathematics



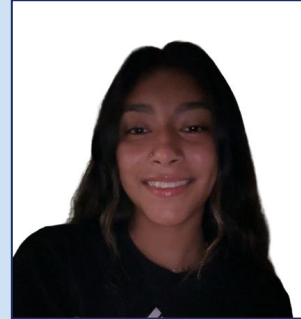
**Andrew
Garcia**

Park East High School



Tyler Chow

Manhattan Center for
Science and
Mathematics



**Keshley
Toribio**

Park East High School

Social Science Research:

Our Social Science Issue:

- ❖ Finding ways to help elderly people cross the streets of Harlem safely.



Methods Used and Why:

- ❖ Interviews
 - Helped us **collect stories** and a deep analysis into their **navigation of the city streets.**
- ❖ Surveys
 - Allowed us to gather **statistical data**

Social Science Research:

First Field Trip

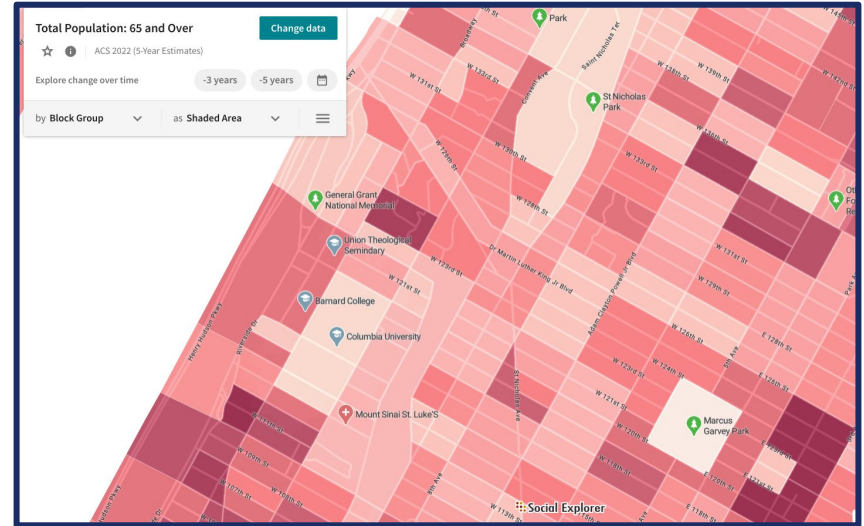
- ❖ The Morningside Heights Housing Corporation that is located between La Salle Street and West 123rd Street
- ❖ Broadway and 125th street at the train station
- ❖ C-Town on Dr. Martin Luther King Jr. Blvd

Second Field Trip

- ❖ Morningside Park
- ❖ The Morningside Heights Housing Corporation that is located between La Salle Street and West 123rd Street

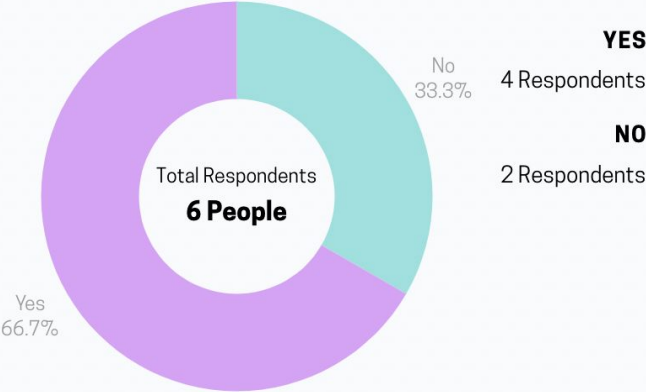
8/5: Open Format Conversation

- ❖ ARC XVI A. Philip Randolph Senior Center



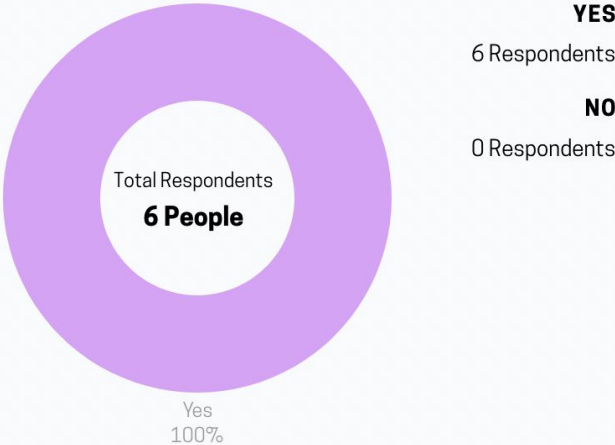
ARE YOU 65 YEARS OR OLDER?

Wednesday, July 31



DO YOU LIVE IN THIS NEIGHBORHOOD?

Wednesday, July 31



Social Science Research:

What Did We Learn From the Interviews and Surveys?:

- ❖ Few problems crossing the street
 - Interviewee #5 talked about what they noticed
- ❖ When we were at the senior center, many people spoke about their experiences **crossing long streets**



“One thing I've noticed that doesn't affect me is like some some **lights tend to switch to walk faster**. So I wonder if a lot of older people may **not have the time to cross the street**. Maybe that's something. To me, no problem”

-Interviewee #5

Social Science Research:

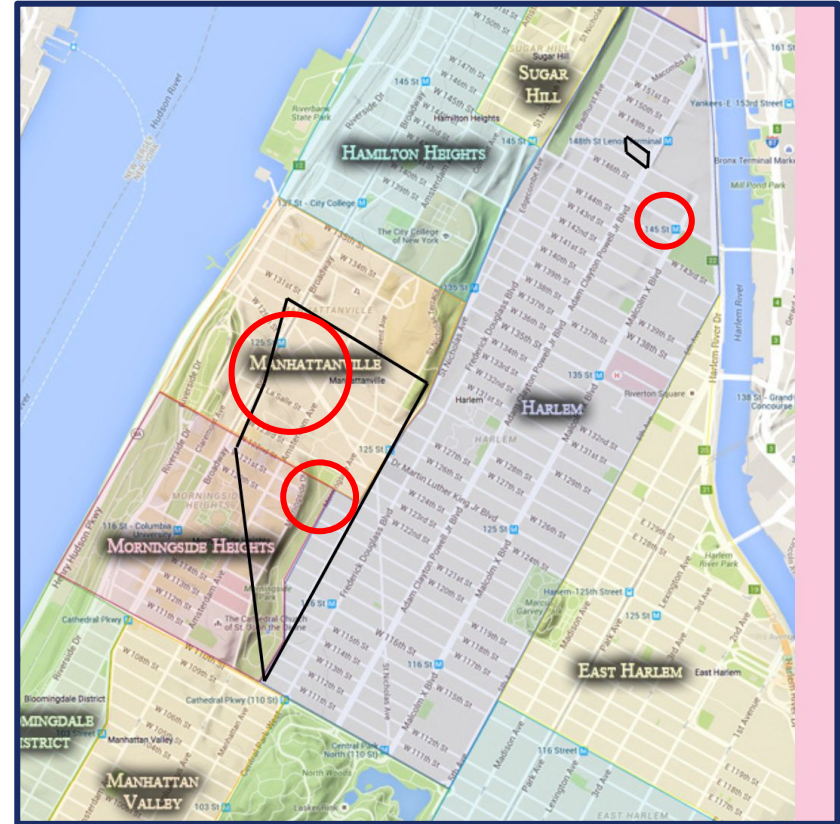
What Did We Learn From the Interviews and Surveys?:

- ❖ Few problems crossing the street
 - Interviewee #5 talked about what they noticed
- ❖ When we were at the senior center, many people spoke about their experiences **crossing long streets**



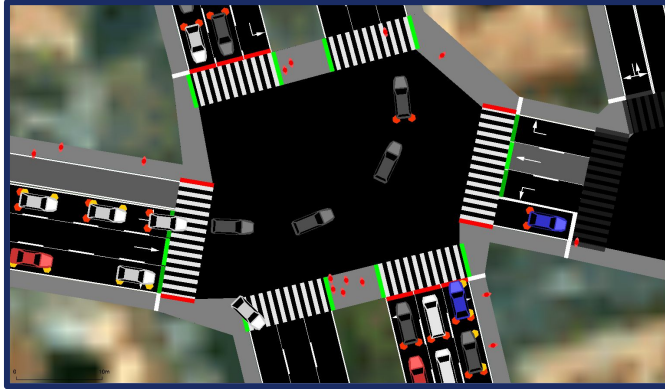
Limitations:

- ❖ Limited area
- ❖ Lack of people with mobility issues
 - Not being able to reach out to those who are unable to leave their house due to problems in the streetscapes
- ❖ People not wanting to be interviewed
- ❖ Schedules
- ❖ Limited time



Engineering Research:

We worked with Simulation of Urban Mobility (SUMO).



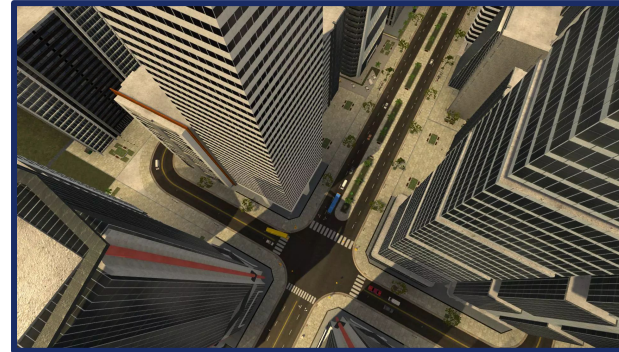
We did VR experiments to explore the pedestrian safety at crosswalk.



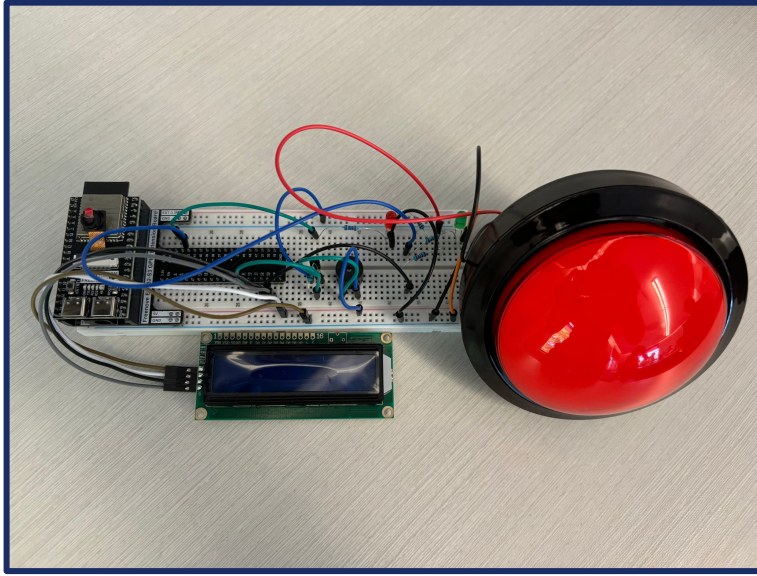
We worked with CVAT which stands for Computer Vision Annotation Tool.



VR 3D Virtual Environment

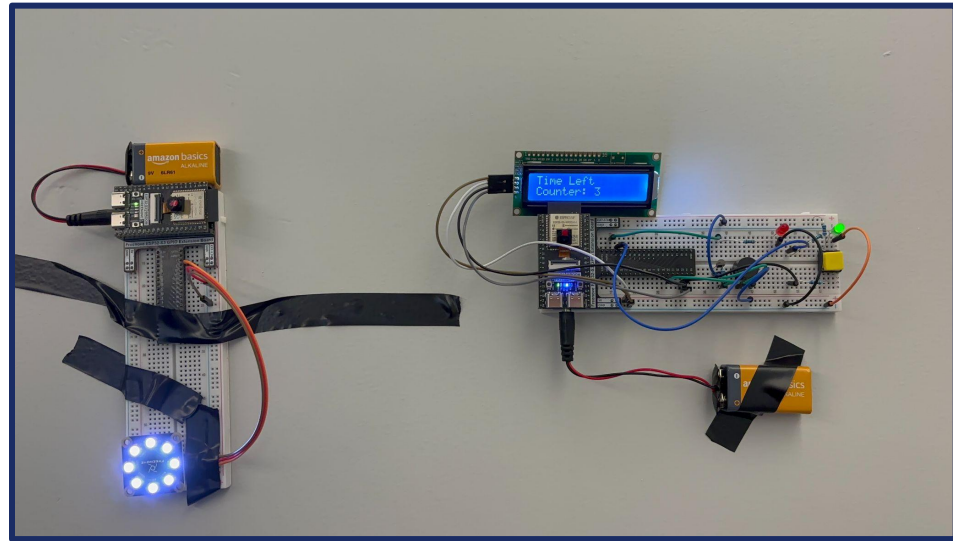


Engineering Research:

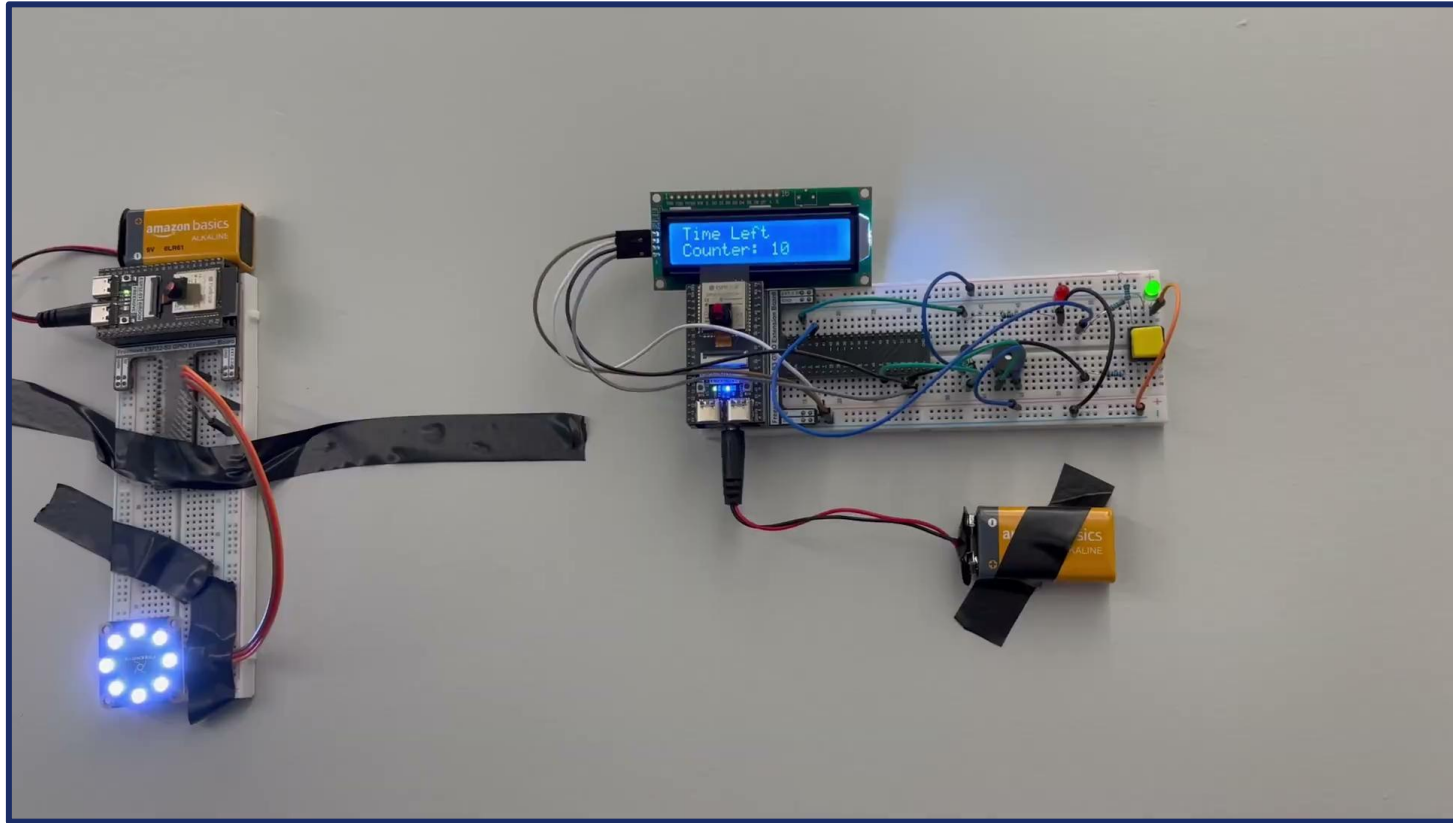


NORTH STAR: extending crossing time for older pedestrians with the push button

We switched gears and worked with circuit boards. We programmed the buttons and tools with our prior knowledge of Python.



Engineering Research:



Connection Between Social Science and Engineering:



←
Social Science and
Engineering go hand
in hand
→



Main Takeaways:

#1: The Community

- No projects without community

#2: Future Research

- Explore effects of technology

#3: Working on Socio-Technical Systems

- Social aspects of technology
- How can the button influence society and vice versa

Acknowledgements

- ❖ Cristian Capotescu
- ❖ Dr. Sharon Di
- ❖ Fernanda Martinez
- ❖ Jenny Fondren
- ❖ Joan Germain
- ❖ Ki-Sang Yi
- ❖ Professor Anthony Vanky
- ❖ Trey Greene
- ❖ Timothy Yoshimura Small
- ❖ Yongjie Fu
- ❖ A. Philip Randolph Senior Center
- ❖ Residents of Harlem
- ❖ Center for Smart Streetscapes (CS3)



Thank You!

Any questions?