North Carolina Institute of Innovation

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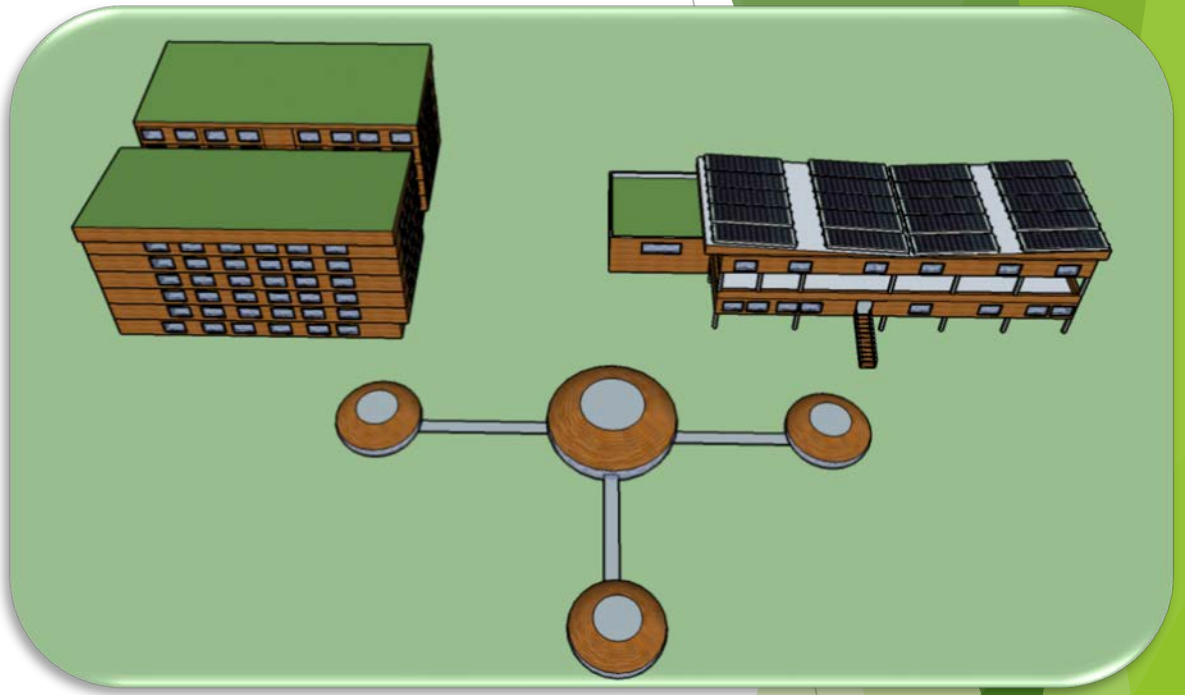
Our School

- Our school is a boarding school
- Our school is run on the basic properties of S.T.E.M. (Science, Technology, Engineering, Math)
- Our campus is located next to Falls Lake in Raleigh, NC
- The school has a dorm and educational building
- We are almost completely self-sufficient



Location

- Our school is located at Falls Lake due to its natural biological potential, unique learning environment, and community use potential
- The area provides an exceptional environment for scientific and experiential learning
- We will generate energy through solar panels and algae to fuel conversions

Admission and placement

- At our school we take advanced students determined by their application test scores. A test that measures creativity, innovation, aptitude, and critical thinking.
- Students will be categorized into four main learning groups; kinesthetic, visual, auditory, and read write learning.
- Students will learn based on their best learning style
- Our school is free to anyone admitted

Building Structure

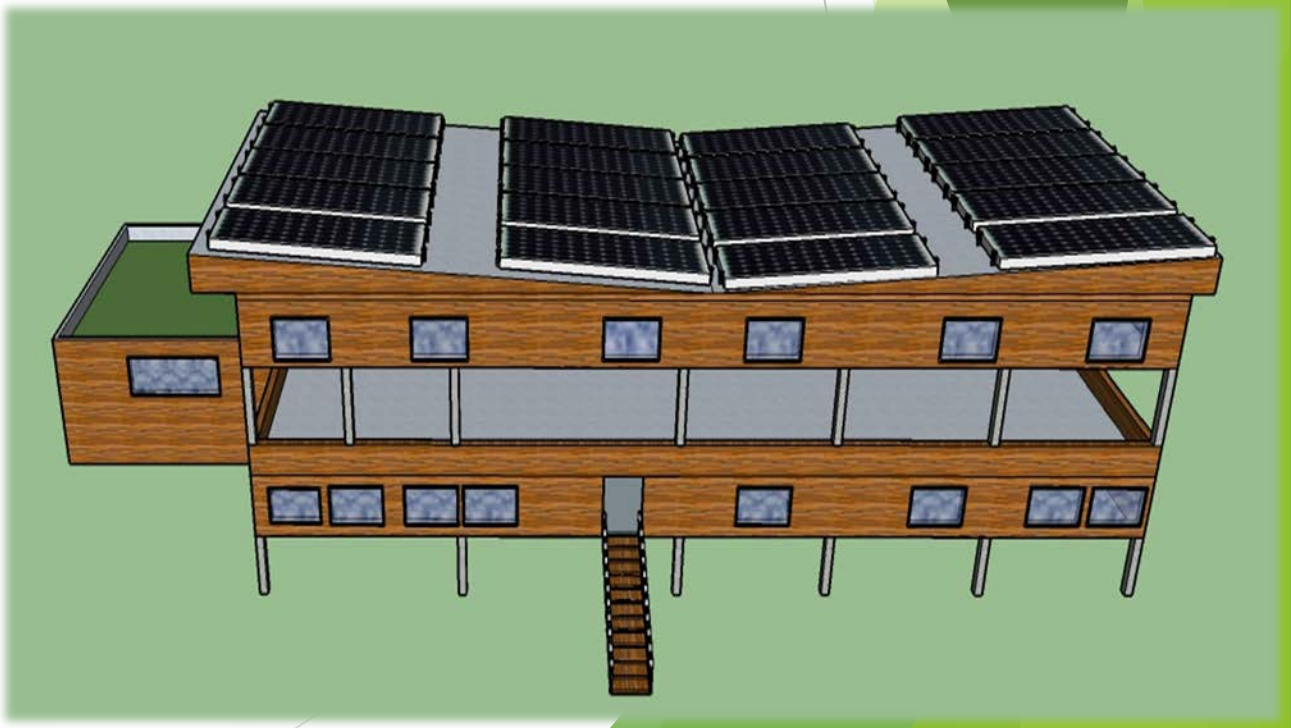
- There are two main buildings; the educational building and the dorm building
- The educational building is 170’ x 65’ and consist of four main floors
- The dorm building is 140’ x 130’
- There are four classrooms for each grade

Building Structure

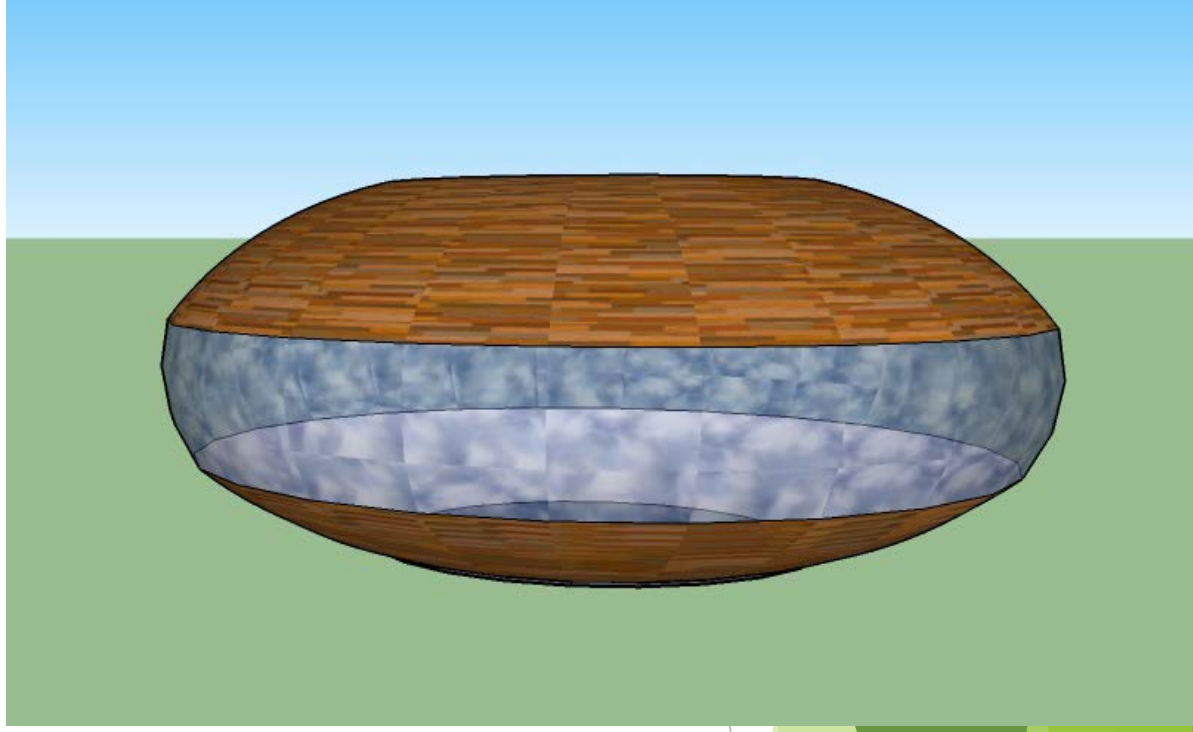
- The butterfly roof on top of the educational building houses solar panels and the flat roof above the gym houses our green roof.
- School exterior is reclaimed wood to blend into the beauty of Falls Lake
- The science pods extend onto the lake to provide a unique learning environment where the students feel fully immersed in nature

Education Building

- The Educational Building is where most classes will be instructed
- Four floors and a butterfly roof
- Solar panels on the roof to provide most of the needed power to the school
- Green Roof on top of the gym and a growing wall on the side of the gym
- Courtyard area between the two learning floors
- Parking area on the ground level



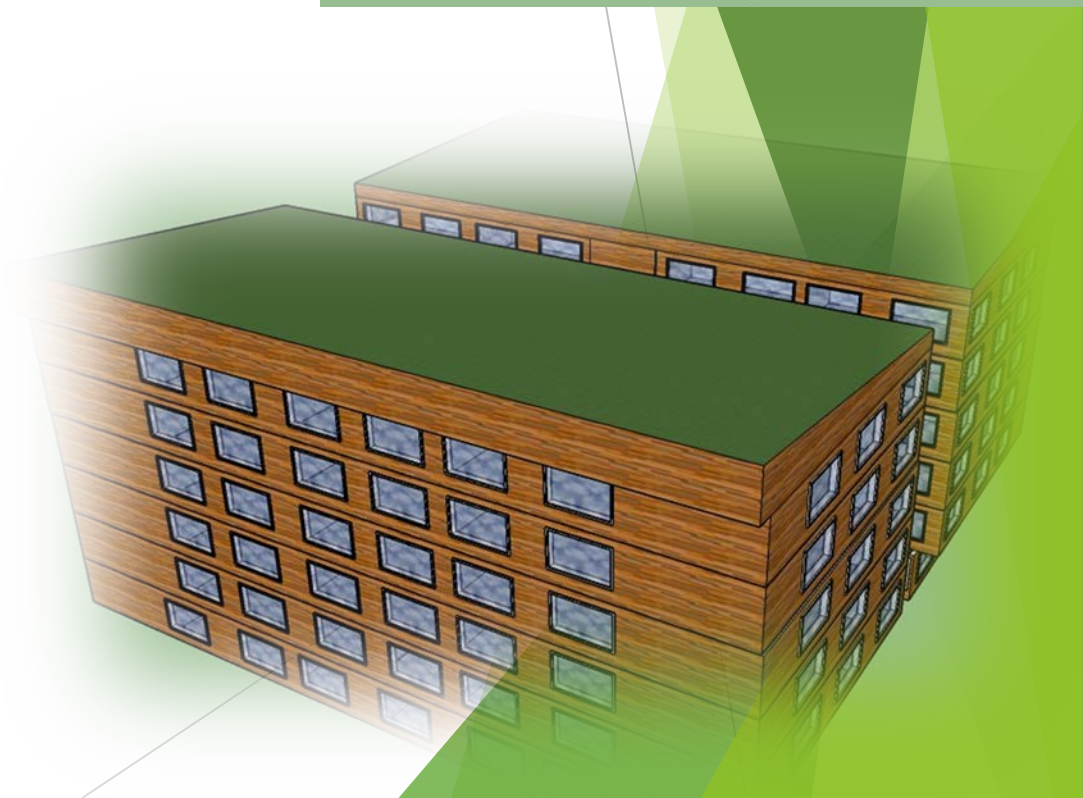
Pods



- The main pod consists of two floors
- 1st floor library and 2nd floor open air cafeteria
- Cafeteria has a retractable roof
- Library modeled after Hunt Library
- Three smaller pods that have science classrooms inside
- Each pod is specially designed for science

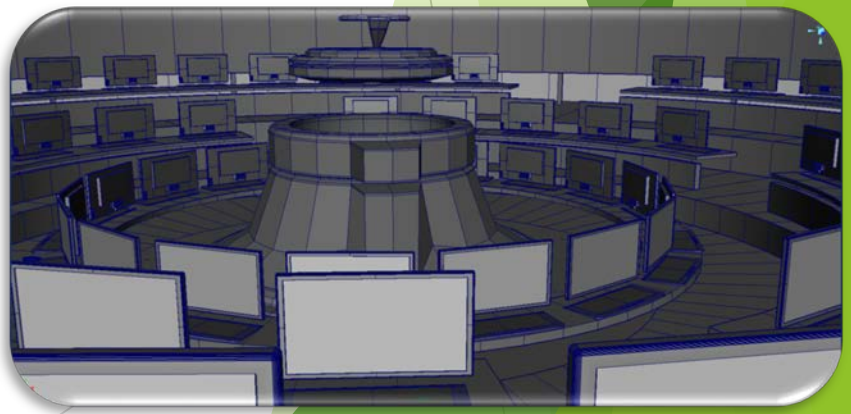
Dorms

- The dorm building consists of two buildings
- The first floor consists primarily of teacher housing and communal areas
- On ground floor between the two buildings is a garden and relaxation area
- On each floor in both buildings there are nine dorm rooms
- Each dorm room consists of two separate rooms that are connected by one bathroom



Classrooms and Interior Design

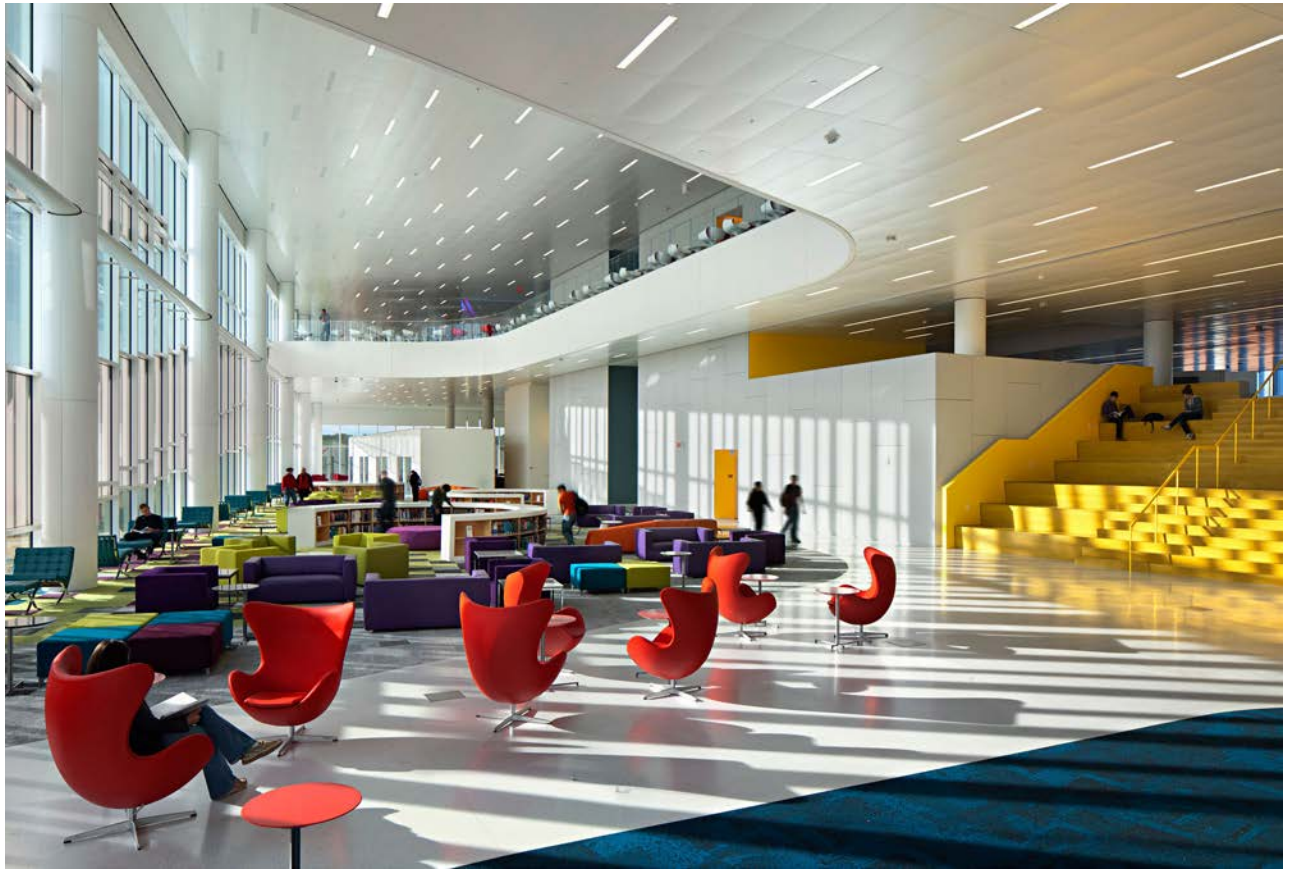
- The classrooms at our school are, for the most part, specifically designed to accommodate the needs of each subject
- There are four multi purpose elective rooms
- We have one MakerSpace room for both school and community use
- Most of our science classrooms are housed in the pods for optimal scientific learning



Classrooms and Interior Design

- The floors are bamboo wood, which grows rapidly and is sustainably harvested
- We have a subdued color palate using only colors found around us in nature
- Most furniture is made by local companies to reduce our carbon foot print
- Interior inspiration comes from the Hunt Library

Hunt Library

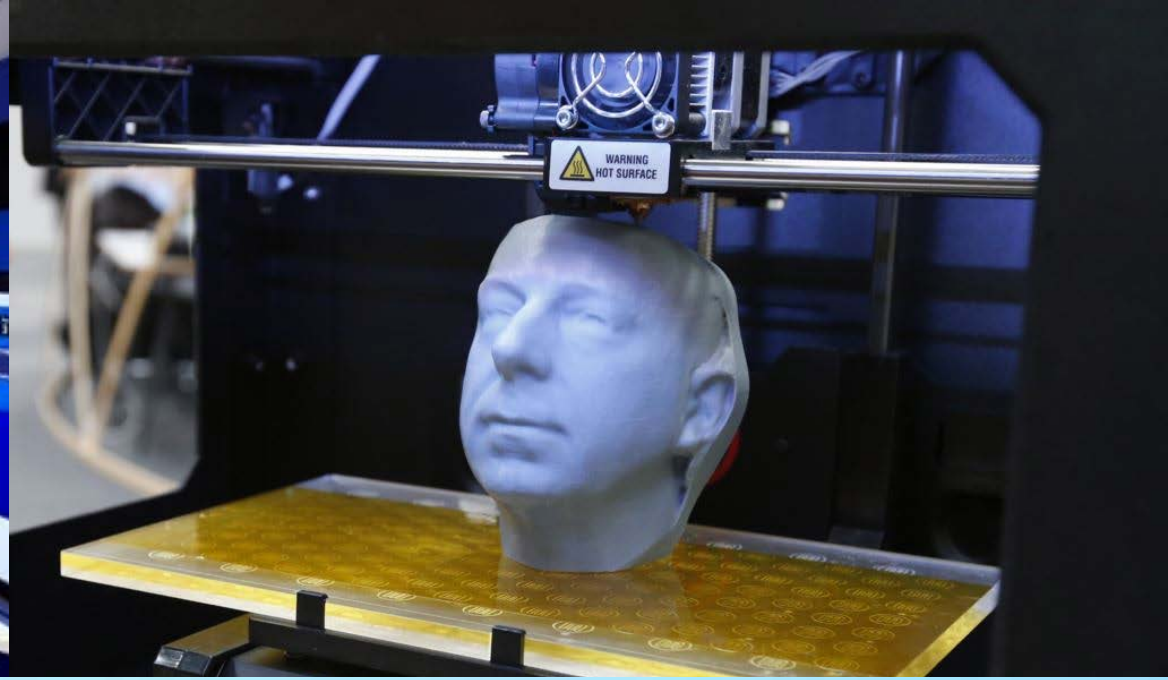


Classes

- Students will be immersed in the most modern technology and scientific advancements
- Our school days are seven periods long with one for lunch
- Kids have two chosen electives, which all have a STEM focus
- Classes focus on the learning styles of the students

Innovative Technology

- Students in science classes are seated around a circular table in which the center is has a holographic projector. Teachers sit with the students and can project themselves into the center
- Touch screen tables
- Students have AR glasses
- Fog on command windows
- Video conferencing for international collaboration
- All students have wearable devices for health monitoring and security
- 3D printers in every classroom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HOT SURFACE


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Grading Scale

- We have subjective and objective grading scales
- **Objective grades are based on performance alone on assignments**
- **Subjective grades are based on the students ability to comprehend and apply their knowledge**
- **Both grades are on a ten point grading scale**

Power and Energy Conservation

- Our school runs on renewable energy resources, primarily solar panels and algae
- We are using a technology that is not currently fully developed, but will be in the future
- We are using artificial solar leaves which during photosynthesis split oxygen and hydrogen, thus creating liquid fuel
- The second renewable energy we use is algae by cultivating the oil from algae and turning it into a biofuel
- A specific area of the lake is designated for algae blooms

Sustainable Food Features

Our school is largely self sufficient

- **Our school will have connections to local, organic farms from where we will buy our dairy products, eggs, and meat**
- **We aim to provide 70% of our food from our gardens**
- **Most of our plants will be grown through hydroponics**

Sustainable Features

- Daylighting
- CFL lights
- All cleaning supplies are biodegradable
- Composting any food waste to be used in gardens
- Reusable dishes
- Low odor emitting paints
- Occupancy sensors

Sustainable Features– Water

- Rain water collection barrels used for watering our gardens and flushing toilets
- Dual flush toilets
- Infrared sensor controlled faucets
- Low flow faucet heads
- Reusable water bottles for every student and staff & water filling stations around the school

Community involvement

- When building the school we have revamped the entire Falls Lake Recreational area by adding new benches, clearing pathways and cleaning the environment
- The pods are open during the weekend and evening hours to host classes on gardening, sustainability, nature, and research
- During the Summer months the school will be open for the communities usage
- As projects students build hydroponic systems to donate to other schools. The goal is to eventually have all schools in the district producing at least 70% of food eaten in the cafeteria
- Partnerships with local farmers for meat and diary products

Hydroponics inspiration

Community Gardens

- We have school gardens, but we also have a community garden where local community members can have a plot of land to grow their own vegetables. Our tax for using the land is to take 15% of their harvest, which we will donate to our local food bank and homeless shelter
- The community garden spaces will be used for teaching gardening classes to students and community members

Learning in Nature

- Designing and installing nesting grounds for local birds
- Bird watching classes
- We have classes in aquaculture and use part of our funding to stock the lake for food and recreational use
- Our flower gardens are specifically created as butterfly gardens

Investment

- Flower sales. 50% of our flower sale profits go to local green programs around the city, the other 50% is reinvested in our school's sustainability programs
- Some of electives will focus on creating products out of recycled materials that will then be sold online (for example bow ties or benches made from recycled materials)
- We have an electrical bus that takes students to their weekly hours of community service (such as working at a soup kitchen)

Student Activities

- Outdoor recreational activities will be accessible such as boating, swimming, hiking, running, biking, etc.
- Sports fields will be on campus and house leagues between students will be available
- Each student has a weekly chore list that will require helping to maintain the school building and grounds and helping out the community

Transportation

- We have E.L.F's available for professor and community use
- City buses busses stop outside of the school
- We have electrical power stations for electric vehicles, but we have very few parking spaces for gasoline powered cars to discourage car use
- We also have many bike stations and walking paths

Thank you!