

Community ORCHARD Bus stop

Sustainable Design with Autodesk Fusion 360



Design has the potential to bring people together. Orchard bus stop offers a flexible design that allows for multiple layouts and includes components that can be adjusted depending on the available space, geographical location and specific needs of the urban environment. Seating modules also serve as display cases that showcase products, art pieces, or decorative elements that represent each community's interests. A green roof and solar powered lighting offers alternative solutions for reduced energy consumption.



Design Goals

- Promote community engagement during design process
- Integrate alternative energy features
- Encourage socialization while waiting for the bus
- Allow for bus stop to integrate with local environment and promote work of local artists, businesses, etc.



Fusion 360 Features

- Modeled in "Model" mode
- Extrude > overall form
- Press pull > cutouts
- Joints and assemblies > define part modules
- A360 > cloud rendering and environment integration



Sustainability Strategies

- Open-ended design that can be finished by end-users
- Modular design adapts to specific needs and layouts
- Integration of natural elements such as green roof for natural insulation
- Persuasive design for encouraging community engagement

Adaptability



The simple and geometric design allows for components to be added depending on the bus stop's location. If extreme cold or snow are a concern, additional walls and windows provide necessary shelter. In warmer locations or whenever open layouts are preferred, the design can work with minimal walls, allowing for an open structure that integrates with the urban environment.

Green roof

The bus stop contains a green roof that adds appeal as well as thermal insulation from heat generated by the sun without the need of air conditioning. The plants provide a touch of natural life in the middle of any urban space, becoming a community garden and an opportunity for enabling social interaction. Internal gutters collect excess water from the roof and bring it down to the floor without disrupting users of the bus stop.



Materials & shape



In order to provide more integration with the surrounding environment, Orchard bus stop uses simple geometric shapes, simple materials and abundant use of glass. This allows for more integration with the community around the bus stop instead of fighting over it for attention. Additional elements include trash and recycling bins, displays for information of bus routes and street signs.

Modular cubes

Cubes in various sizes can be used for seating or displaying objects that reflect interests of the community such as local art pieces, school projects, handcrafts, etc. Each cube is anchored to the ground and includes a locking mechanism that hides discretely underneath the top surface and protects the contents stored inside. Each cube also includes a solar-powered lamp that illuminates its interior and provides ambient lighting.

