81% of people say the most frustrating thing about riding the bus is that they don’t know when it will actually arrive.

Many people that ride the bus don’t have access to smartphones that provide easier access to bus route information.

Frequent riders said they would not mind waiting so much if the bus stops were more pleasant and informative.

**Why don’t users like riding the bus?**

**How could a stop be more user-focused?**

- **Object**: Create a form that’s adaptable, but also fun, engaging, and distinctive.
- **Community**: Involve and support the community to encourage more users.
- **Utility**: Explore ways to utilize the full potential of the bus, bus stop, and overall system.
- **Usability**: Make the entire bus riding process easy to understand and enjoyable to use.
- **Technology**: Integrate current technology, but in a way that is intuitive and accessible.
- **Communication**: Improve communication between the driver and rider to improve efficiency.
INSPIRATION

geometric

playful

colorful

details

lighting

hideaway seating

EXISTING STOP RESEARCH

OVERRIDING GOALS

Increase bus use by creating a versatile bus stop system that focuses on comfort, usability, and community. Implement technology and communication to solve problems surrounding scheduling, waiting, and weather.

Design based on Lawrence, but final product could be implemented in similar sized or college towns.

Object: Create a form that's adaptable, but also fun, engaging, and distinctive.

Utility: Explore ways to utilize the full potential of the bus, bus stop, and overall system.

Technology: Integrate current technology, but in a way that is intuitive and accessible.

Community: Involve and support the community to encourage more users.

Usability: Make the entire bus riding process easy to understand and enjoyable to use.

Communication: Increase communication between riders and drivers to also increase efficiency.
INITIAL IDEATION + FEATURES

OBJECT
- Stops designed in "pieces" Easy to create stops with variable amounts of shelter based on traffic (shelter vs. sign)
- Colorful, fun, modern, interactive
- Stops customized and visually defined based on location

UTILITY
- Utilizing services during less-frequented times
- "Smart" routes created by data gathering and user feedback
- Traffic and density prediction
- Delivery services
- Rent bike "lockers" at stops

TECHNOLOGY
- Easy-to-use mobile app
- GPS bus tracking and prediction
- Converting high-tech features to low-tech use
- Entertainment to make the waiting easier and increase fun
- Smart touch-screen interfaces

COMMUNITY
- Location-based ads for local businesses and organizations
- Community rewards program
- Integration and promotion of community garden (plants in bus stops watered by collected rain)
- Special routes to local events (concerts, fairs, etc.)

USABILITY
- Plan your route
- Public live-update map with scrolling updates and news
- Social media integration
- Easier and faster wheelchair accessibility
- Instant "help" button
- Adaptable seating/shelter

COMMUNICATION
- Notices of full, late, updated, or rerouted buses
- "Don’t leave me" - Notify the bus driver of proximity
- Color coded lighting/projection for distance communication
- Wheelchair notification and preparation

Building blocks allow shelters to be customized by location - more shelter is provided based on the amount of people that frequent the stop.
Continued ideation of a "building blocks" concept, these explored how cube stacking and continued lines can create different environments.

Another modular approach based off of a cone. The cones could serve multiple purposes and allow the addition or subtraction of seating and features.
Large traffic could use a single post or a wall of seats with the map displayed. For areas with extremely high traffic, more length could be added to the standard size, or a wall of seats with the map could be used to take up less sidewalk room. Standard size could be implemented where normal traffic occurs. The map is larger for far-away viewing, and could be seen from either side.
1: PANELS
Colorful panels give shelter a distinctive and uplifting appearance. Panel colors could be changed to resemble location or sponsor (blues and reds for KU) or be kept neutral (tones of gray).

2: POCKETS
3D spaces for things such as route pamphlets, flowers promoting community gardens, etc.

3+4: HOOKS + SEATING
Certain panels (of marking of some sorts would be designed to designate) could fold down. Similar panels (3) could be used as hooks to temporarily hang book bags, purses, groceries, etc. Larger panels (4) could be folded down for seating.

5: MAP
A laser cut map of the shelter’s surrounding area would be part of the structure. Embedded LEDs would show real time bus locations as the buses get close to the stop. This method creates an easy to understand visual and allows users without smartphone technology to figure out their routes and times.

6: STRUCTURE
Possibility of using the existing metal bus stop structures to reduce waste, cost, and the labor of reinstalling into concrete.

7: POWER
Solar powered lights with the possibility of integrating heat or cooling. The solar panels are also used to power the rest of the shelter technology.

8: TIMER
LEDs serve as a visual indicator of how far away the next bus is, which could make waiting seem shorter.

9: BIKE RACKS
Integration of bike racks, since many people either walk or bike to the bus stop.

MORE FEATURES
“Don’t leave me,” Mobile app. Route planning, Wheelchair or bike notifications.
**PANEL CONSTRUCTION**

Panels are created in a standard size, in order to increase modularity. A small stop could use one panel, while larger traffic may require a double-sized four panel layout.

**DIMENSIONS**

Panels are 3x8 ft (1 ft from the ground to allow drainage), which allows them to fit into a unit of standard structuring (12x6x9 ft). This example shows one potential layout for the standard shelter size.

- Seating is 1.5 or 2 ft from the ground. Seats are 2, 2.5, or 3 ft by 1.5 ft.
- The smallest rectangle size is 3x3 in, which allows the possibility of local businesses paying different amounts for variable ad sizes (if allowed).

The panel construction and design allows total customization. A stop could be arranged numerous ways, from a single stop, to a standard size, to a wall or zig-zag.
COLOR PALETTE EXPLORATION
FINAL COLOR PALETTE

BIKE RACK IDEATION
Solar-powered lights illuminate the space to improve mood and safety. The solar panels are also used to power the rest of the shelter technology.
Using the existing metal bus stop structure and concrete foundation reduces waste, cost, and the labor of tearing down and rebuilding.

A laser cut map of the shelter’s surrounding area would be part of the structure. Embedded LEDs would show real-time bus locations as the buses get close to the stop. This method creates an easy to understand visual and allows users without smart phone technology to figure out their routes and times.
INTEGRATED BUTTONS

The color of the bus stop buttons correlates with the color of the sign (8). This allows users to know when their bus is expected while notifying the driver that someone is waiting for their bus.

COLORFUL GEOMETRY

Colorful panels give shelter a distinctive and uplifting appearance. Panel colors could be changed to resemble location or sponsor (blues and reds for KU) or be kept neutral (tones of gray).
SAFE STORAGE

Certain panels could fold down to be used as hooks to temporarily hang book bags, purses, groceries, etc. without creating a safety hazard.

HIDEAWAY SEATING

Separated seating encourages people to sit without feeling crowded. The hideaway aspect prevents overnight guests while making room for more people or wheelchairs when not in use.
The bus stop sign has integrated LEDs, which provides a clear indicator to users of the bus stop’s location. It also has a small screen, which clearly states the next bus and its ETA.

An LED strip serves as a visual indicator of how far away the next bus is, which could make waiting seem shorter. The LED colors also change according to which bus is to be arriving next.
Circular lights line the roof of the standard stop, which continues the geometric language while creating friendly lighting.

The geometric form language of the back wall is intended to make the user happy, and remove the feel drudgery when waiting.

The form of the room is a continuance of geometric forms, while the windows let in sunlight and ventilation.

The map is placed in an area that is accessible to people on both sides of the stop, while set aside enough from the pattern for clear viewing.