**Mission Statement:**

As cities grow from people moving into urban areas, this means that more people need more food, goods, and services that are accessible and within reasonable distance from their location. Transportation inadequacy becomes a barrier when trying to access healthy, affordable, and culturally appropriate foods. Those most affected by food insecurity are seniors, low income families, newcomers, people with disabilities and single parents. Food insecurity is the state of being without access to a sufficient quantity of affordable, nutritious food.

Food insecurity is an issue Halifax currently faces. Compared to other urban centres, Halifax is one of the most food insecure cities in Canada. As the Halifax Regional Centre continues to sprawl due to cost of housing, access to affordable food becomes more costly. Halifax has recently taken upon the Smart Cities Challenge to tackle the issue of food insecurity. Solutions to this issue will be addressed through innovation, data, and technology.

Our application seeks to use a collection of data connecting food resources and ways to get there. Our goal is to provide an app where community members can locate and direct themselves to the closest food resources, and to provide local vendors/producers with the opportunity to post temporary or permanent food services in their communities.

**App Description:**

Since our app has a current connection with an issue in the city of Halifax, our app seeks to satisfy two needs: the need to connect with food resources in various locations, and the need for awareness of local vendors selling product across various locations in Halifax.

Our application is divided into two main interfaces:

1. A diverse food resource database wihtin Halifax.
2. A food service submission which local vendors/producers/members of the public, can add food services within Halifax.

**Food Resource**

The Food 4 All app is designed to facilitate access to fresh food in Halifax using open source data, to promote food accessibility to community members and identify food deserts within the region.

The interface is designed through the ArcGIS Web Appbuilder. The following is a list of widgets used in our app.

* **About** – Introduces the purpose of the app, description of widgets, and the purpose of the second interface.
* **Legend** – A compilation of the symbols located on the map. Categorizes the point features and food service submissions with unique symbols.
* **Point features** - Point features illustrate the locations of vendors, stores, and markets in which fresh food is offered. Points are categorized into seven classes based on what the location offers - including markets, grocery stores, seafood vendors, co-operative facilities, food banks, specialty stores, and bulk food stores - to help users plan their trips.
* **Near me** - The near me Widget can be used to locate fresh food vendors around the user's location or around a predetermined point. The buffer area that defines proximity around the user can be altered to suit the user’s needs.
* **Directions** - The direction widget lets the user input a "point A" location to "point B", with multiple different driving or walking time.
* **Calendar Filter** - Many food banks and markets are offered only on specific days of the week. The Calendar Filter Widget allows users to filter point locations based on their needs and availability throughout the week.
* **Filter by Type** – Filters by the type of food resources available which include: grocery stores, food banks, co-ops, farmer’s markets, seafood vendors, specialty stores, limited grocery stores, and bulk food.
* **My Location** - Uses the user's geographical coordinates to directly mark their location.

**Food Service Submission**

The Geoform app, "Add a Food Service", allows users to suggest changes, contribute their own information, including farmers markets, pop-up shops, and new locations, or promote their own business. This app was created to foster community engagement, and encourage the exchange of fresh, affordable food throughout Halifax.

* **Service type** – Describes the type of food service offered.
* **Name of Event** – Describes the name of the user's event or business.
* **Date** – Describes the date and starting time of the event.
* **Time** – Describes the duration of the event.
* **Description** – Describes the promotion or event details.

After selecting the attributes associated with the type of food service, the user must mark the location geographically on the map. This can be done by either typing in the address of the location, inputting the longitude/latitude position, or marking it directly on the map. Once submitted, the type of service added is catogerized by different colour marker points so users can differenciate added food services on the app.

The second interface Add a Food Service, is located on the top right corner of the Food 4 All app.

**Data Sources:**

We collected open source data from Google Earth.

**Limitations**

After attending a food accessibility workshop focused on communities in Halifax, we noticed that language is also a barrier when it comes to accessing healthy, affordable food. Expansion of this app would include an option to change the language of the interfaces.

**Licensing Information:**

This application is licensed under the 3.0 GNU General Public License. Any credited use/re-purposing of this application is allowed.

**Link to the application Food 4 All**

https://arcgisportal.library.dal.ca/portal/apps/webappviewer/index.html?id=c61cbd904d1744b0ba908dccb0928df6