**Kalamazoo Route Planner Requirements**

**Functional Requirements:**

The software shall plan a route for cycle/transit based on 2 or more nodes the user will enter on a map of Kalamazoo.

**User Interface Requirements:**

The software shall display a map of Kalamazoo so that the user will be able to zoom, scroll, and place nodes. The software shall allow the user to mark checkboxes to dictate what roads, bike lanes or not, and add or remove layers that would add amenities to the map, like stores.

**Capabilities Requirements:**

The software will take 15-30 seconds to plan and will run on chrome, firefox and safari.

**Software Interface Requirements:**

The software shall connect to the OpenStreetMap (OSM) API, Overpass API, and a database linked to all the data on OSM.

**Software Input/Outputs and Data Requirements:**

The software shall take the start and end points from the user on the map. The software shall allow the user to select different road options via checkboxes. These road options include busy or not busy and bike lanes or no bike lanes. The software shall output a series of directions in the web browser next to the map or drawn on the map. The route will be able to be exported via CSV. The software shall also take in data from the OSM API/database to compute the route.

**Installation and Maintenance Requirements:**

The software will be installed on a server that will require routine maintenance and bug fixing.