

Team Stormin Mormons
Project Bike Route Planner App
Steven Evans
Jared Lyllywhite
Chris Garcia

The Logo for the Bike Route Planner App will be as shown below in Figure 1.



Figure 1: Bike Route Planner App Logo

The user interface for the app will appear as displayed in Figure 2. The user interface includes a button labeled “Select Points.” This button will allow the user to select the origin and destination of their desired bike path. The user will be prompted to select these points using the on-screen map. The user will also select desired features for the bike route using the checkboxes for scenic lookouts, shopping centers, schools, and parks. The trails generated by the app will pass through these desired locations selected by the user. The user can also adjust the allowable grade for the trail using a slider bar. The value on this slider will be used to adjust the back end least cost path analysis so that the trail meets the desired vertical alignment of the user. After

inputting this information, the user will press the “Calculate Optimal Path” button, which will begin the process of generating a bike route. After the program runs, a path will appear on the map, displaying the location of the desired route. An elevation profile for the path will also appear in the bottom right corner of the screen. Statistics of total distance, total elevation change, and estimated time of travel will appear on the left. This app will allow the user to plan a new bike route according to the dictates of their own conscience.

Some additional output features may include:

- Nearby bicycle-vehicle crash densities.
- Pollution levels local to projected bike path.
- Distance labels to desired features of route from bike path.



Bike Path Route Planner App

Parameters

Select Points

Desired Features of Route

☐ Scenic Lookouts

☒ Shopping Centers

☐ Schools

☒ Parks

Desired Average Grade

Calculate Optimal Path



Total Distance:

Total Elevation Change:

Estimated Time of Travel:

Elevation Profile



Figure 2: User Interface for the Bike Path Route Planner App