# Portland Bike Accidents

## Team C1 Requirements Document

Kenny Trowbridge, Parker Kimball, Casey Sigelmann

### Section 1. Introduction

Our goal for this project is to create an effective visualization of the number and frequency of bicycle-car collisions on various streets in the Portland area. By creating this visualization we hope to infer how well the Green Lane Project is accomplishing its goal of reducing the number of bicycle-car accidents. This set of data is important because it affects everyone who rides a bike or drives a car during the average day and can outline where taking extra precaution can save a life since everyone shares the road.

### Section 2. Domain Knowledge

In order to understand this data set, it is necessary to have some background knowledge on the Green Lane Project. This project's purpose is to create dedicated bike lanes on roadways across the nation and provide more protection for bikes sharing the road with general traffic. Portland first created a protected bike lane in 2009 on SW Broadway and also started creating Green Lanes in 2011. Portland has a total of four Green Lanes on SW Broadway, SW Moody, NE Cully Blvd., and NE Multnomah St. The Green Lane uses physical barriers to separate traffic from bicycles which often requires extra street space to do effectively.

### Section 3. Visualization Requirements

We aim to produce visually appealing charts that describe the accident data from 2009-2013 for various streets around portland. There will be the capability to select multiple streets and see how, over the four years, the number of accidents have changed. There will also be an option to select streets that have implemented the Green Lane. This will help illustrate how the accident data changes from before and after its implementation.

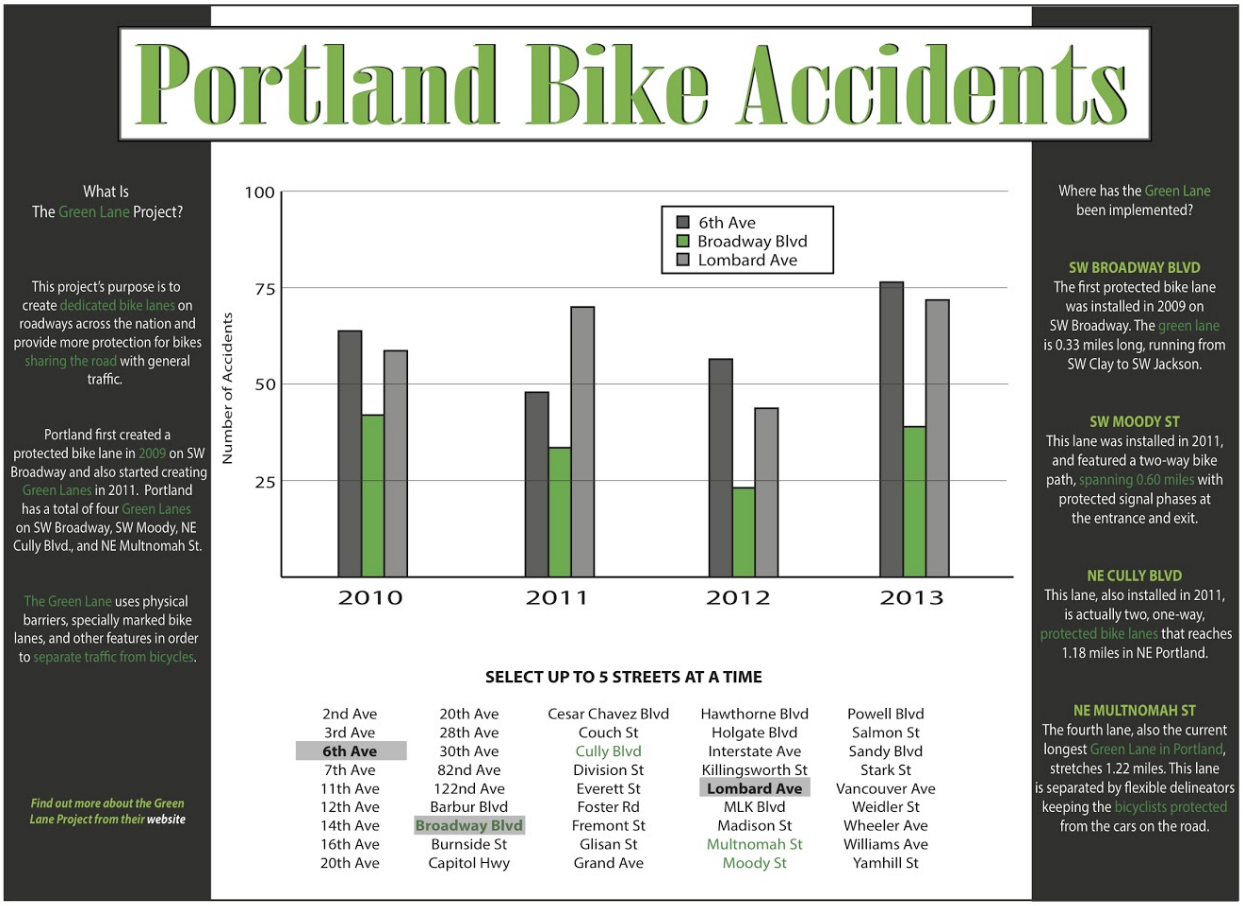


**Figure 1.0. A depiction of the first draft visualization. The graph will depict the number of accidents that occurred on the streets selected between the years 2010 and 2013.**

The visualization will have three groups of features.

1. **Street selection**. Beneath the chart the user will select from a list of certain Portland streets. These streets will populate the graph in a side-by-side bar graph comparison. By selecting an additional street, another colored set of columns will appear in the graph below. If a Green Lane street has been selected, the columns on the graph will appear as a shade of green for easy identification.
2. **Green Lane Description**. On the left- and right-hand side of the window there will be a description of the Green Lane project and its history and implementation in the Portland area. This description will include a link to more information about the Green Lane Project. On the right side will be Green Lane implementation data about the four Green Lane streets in Portland.
3. **Accidents Graph**. A visualization of the number of accidents over a span of four years between 2010 and 2013 for the selected streets. As more streets are selected more bars will appear over each year to indicate the accident data for that street for that year. A warning message will appear above the graph should the user try to select more than the maximum of 5 streets.