**1. Introduction**

**1.1 Background**

Seattle Police Department (SPD) is responsible for responding to and clearing traffic accidents throughout the Metropolitan area also and coordinating any necessary medical care. However, the Seattle Police Department is also responsible for responding to a variety of other local crises and incidents and must decide how to allocate manpower accordingly. Predicted weather conditions on different days and seasons may help police predict the severity of a particular day’s traffic accidents. Police could then use this information to optimize assigned shifts and manpower allocation between different SPD units.

**1.2 Problem**

Data that would help us understand the impact of weather on traffic accident severity includes weather, road conditions, and light conditions. This project hopes to use these data to ascertain whether and to what extent weather conditions can be used to predict traffic accident severity.

**1.3 Interest**

SPD would be interested in predicting risk of severe traffic accidents so they can better allocate departmental manpower and resources to respond to such accidents. Others who may be interested may be local hospitals, who can also use the information to optimize staffing and equipment availability, and local news and public health organizations, who could leverage the information to issue timely health warnings to the public.