**Predicting Accident Severity for the City of Seattle**

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**1. Introduction**

* 1. **Background**

The city of Seattle is the seat of King County Washington and the largest city of the state of Washington. With a population of 608,660 (according to the 2010 census) and a metropolitan area of 4 million, Seattle is one of the fastest growing regions in the US. As growth continues, traffic is a major concern.

Traffic pattern analysis and optimization is critical for the efficient flow of goods and services. With this information, Seattle can better facilitate the needs of its citizens. One element of traffic analysis is accident avoidance and mitigation. Accidents are an unfortunate part of any urbanized region. Along with the human cost, accidents can exacerbate traffic which can impede emergency personnel response. Predicting when and where potential accidents can happen would help the region of Seattle maintain growth encouraging commerce to proceed unencumbered.

* 1. **Problem**

A combination of weather conditions, season, day of the week, location, and vehicles involved can help make the determination of an accident’s severity. This project aims to predict the likelihood of severe accidents that could lead to traffic disruption.

* 1. **Interest**

This project would potentially be of interest to all parties associated with regional transportation in the Seattle metropolitan. With better understanding SDOT could predict when to deploy assets such as salt trucks. The mayors of the region could better lobby the state and federal governments for funds to improve infrastructure.