Client statement

* The City of Regina’s method to collect data is inefficient
  + Current ATR counters used
  + Data collection is centralized
  + No real time functionality
  + Traffic systems are dynamic, and require dynamic data collection

Objectives

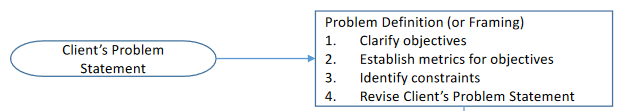
* The Data collected from the pseudo-smart car
  + Real time
  + Vehicle related data, location data, road conditions (black ice, traction etc.)
  + Data can be used for planning roads
  + Data can be used for short term and long term
  + Real time traffic light controller
* Cost effective
  + Data perspective
  + Financial perspective
* Low power device
* Quick installation (not invasive)
* Preserve user privacy

Constraints

* Power 12 volts limit
* Communication constraint
  + Moving vehicle
* Size limit
* Potential privacy constraints
* Monetary constraints

**Draft 1:**

Road conditions within cities are often faced with issues of congestion, potholes and other issues resulting in slow and inefficient traffic. Currently many cities use a simple method to sample traffic data, such as Automatic Traffic Recorder (ATR) Counts, which only give a sample of data, for a limited period of time. (clarify when we get a response from the city of Regina). Our solution to this is a device that would send real time data including speed, location, gas mileage, and other metrics to the municipality for data analysis. The device would also be able to detect potholes based on a vehicle's suspension, and be able to communicate with receivers connected to traffic lights in order to facilitate real time traffic control. This would allow the city to analyze traffic data and optimize traffic flow and future traffic development. It would also make traffic lights more efficient when utilizing real time data. In order to achieve user privacy, the data sent to the municipality would be anonymized.



**Current draft**

Roads are often unacknowledged, but they are vital for a city to run smoothly, so having a robust and effective traffic control system is essential. In order to achieve this, vast amounts of data is required to manage existing road infrastructure and plan for new roads. Currently, the City of Regina uses a centralized data collection system, but as traffic systems are inherently dynamic, it requires dynamic data collection. Our solution for this is a cost effective real time distributed data collection system. Our product would send real time data including speed, location, and other metrics to the municipality for data analysis. The device would also be able to detect potholes based on a vehicle's suspension, be able to detect road conditions based on a cars traction control, and be able to communicate with receivers connected to traffic lights in order to facilitate real time traffic control. This would allow the city to analyze traffic data and optimize traffic flow and future traffic development. It would also make traffic lights more efficient when utilizing real time data. In order to achieve user privacy, the data sent to the municipality would be anonymized.