Bicycle safety draft

Benjamin Hansen

Lee Abeyta

*Improving Cyclist safety through real-time data logging*

Talk to anyone who has ridden a bike in most major American cities, and you will hear, “I would ride my bike more, but it feels unsafe.”. So how can we make bicycling more accessible? Adapt existing architecture to support a safe biking environment while promoting an inclusive and responsible design philosophy for new infrastructure.

The issue with making our cities not only Cyclist safe, but inclusive lies with an already strained city budget. As the primary means of travel, motor vehicles had the lions share of the budget when it came to infrastructure initiatives. New projects must address locations where the most significant impact will be made in a cost-efficient manner to shift the focus from motor vehicles to bicycles.

So how can we locate these areas? The goal of this project is to log location data where motorists most often endanger cyclists utilizing a lightweight device that can be mounted on a bicycle. Information collected during this project will be used to advocate for bicycle infrastructure here in our city.

**Initial Components**

* LiDAR: Measures distance from Bicycle to Cars and Objects on the road
* Camera: to capture license plates and images of cars (would be nice if multiple cameras could be attached)
* GPS: to capture location
* RTC: to time stamp the event
* Enclosure: must be able to protect from the elements and from day to day use of the bike.

LiDAR sensor to turn on the camera and GPS when a vehicle is within 3 feet. The camera should remain on for as long as the LiDAR sensor detects a vehicle within 3 feet, and then remain on for an additional amount of time. At the same time, the GPS and clock should activate, creating a time and location stamp of the event.

Additional features:

air quality sensors  
 MORE? What other useful data could be collected?