Blind Spotter

Purple A
Product Overview

- Detects vehicles in blind spot
- Wirelessly alerts the rider
- Easy installation

Bicycle: [http://www.atlantabike.org/starterbikes](http://www.atlantabike.org/starterbikes)
Car: [http://www.clker.com/cliparts/8/8/e/e/12824259151862440505car1v_vectorized-hi.png](http://www.clker.com/cliparts/8/8/e/e/12824259151862440505car1v_vectorized-hi.png)
Product Overview

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Image: http://www.bicyclinginfo.org/bikesafe/crash_analysis-types.cfm
Sketch Model

- Ultrasonic sensors
- Arduino Uno
- Wired visual alert
## Benchmarking

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Ford BLIS</th>
<th>Commercial Parking Sensor</th>
<th>Blind Spotter</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensor</strong></td>
<td>Radar</td>
<td>Ultrasonic</td>
<td>Ultrasonic</td>
</tr>
<tr>
<td><strong>Alert</strong></td>
<td>Flashing light near mirror</td>
<td>Visual indicator, proportional beep</td>
<td>Flashing light*</td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td>13.5 meters</td>
<td>2.4 meters</td>
<td>3.5 meters</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>$595</td>
<td>$25</td>
<td>~$30</td>
</tr>
</tbody>
</table>

Testing

Sensor Accuracy Comparison

Measured Distance (cm)

Actual Distance (cm)

- Red: Commercial
- Blue: Sketch Model
- Black Dashed: Ideal Sensor
Over 7,000 bicycles

Bicycle: http://www.atlantabike.org/starterbikes
Market – United States

> 750,000 bicycle commuters

> 18 Million new bicycles sold each year

Approximately $25 Million per year
Customer Needs

Customer Needs

In Boston, 37% of bike accidents involve a car.

2009: 51,000 injured across the US, 630 fatalities.

Average age of bicyclists killed in accidents is 41.

Next Steps

- Experiment with commercial range amplifiers
- User testing of various alert methods
- Size reduction and bicycle mount design