



**CALIFORNIA STATE SCIENCE FAIR  
2007 PROJECT SUMMARY**

<b>Name(s)</b> <b>Ryan B. Gerard</b>	<b>Project Number</b> <b>J0614</b>
<b>Project Title</b> <b>Backing Up Blind</b>	
<b>Abstract</b> <b>Objectives/Goals</b> I heard about a case in which a pedestrian, in a crosswalk was injured by a school bus. The bus driver said that she did not see the woman in the crosswalk. The woman was in a blind spot. This made me wonder about the potential dangers of blind spots that surround ordinary cars and whether drivers are aware of the size and location of these blind spots. The goal of this project was to identify the locations of blind spots for various types of automobiles and to test the driver's knowledge of these danger zones. <b>Methods/Materials</b> I conducted a total of 90 tests, 12 tests on each of seven different types of cars: three sedans, a minivan, a sport utility truck, a sports car, and a suburban. I also constructed six extra tests on a vehicle equipped with a rear view camera and sensors and more than 30 baseline tests to establish my methods. I constructed a dummy whose height could be manipulated. I tested to find front blind spots, back blind spots, and side blind spots; I also surveyed driver awareness by having the driver fill out a questionnaire. When they were done, I asked them to "back up," this was to see if the driver takes enough precautions before backing up to prevent a back-over accident. <b>Results</b> To my surprise, the sports car had the largest rear blind spot and the sedans had the smallest! As for the front blind spots, the suburban had the largest front blind spot. The sports car had the smallest front blind spot. The cars with the largest side blind spots were the sedans. <b>Conclusions/Discussion</b> From the questionnaire results, I found that most drivers weren't aware of how very large the rear blind spots and side blind spots were, and the drivers were more cautious about their front blind spots which are actually much smaller in size.	
<b>Summary Statement</b> My project surveyed driver perception of blind spots and investigated actual size of rear, side and front blind spots at different heights for various makes and models of automobiles.	
<b>Help Received</b> Father helped me to test the cars; neighbors let me test them and their cars; teachers let me test them and their cars; mother let me test her and her car.	