Determining Maximum Carpool Potential: A Study of Car Sharing Efficiency

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The purpose of this experiment is to determine the maximum carpool potential for the upper school student body at Trinity School in Midland. Carpool potential could be defined as the maximum number of students that could commute to school in the fewest number of vehicles with relative ease. This question has numerous implications for the school and drivers, including less traffic, safer parking lots, and fewer costs and vehicle emissions. The data collection is conducted throughout a two month period in which students are monitored on their driving and commuting practices. Collection is carried out manually for a period of time extending prior to and after normal arrival times. Fields collected include arrival time, driver, name of student, type of car, and number of passengers. Students are then scored based on certain criteria as compared to other students. Those above a certain minimum score are considered a carpool match, and removed from the potential pool. When all eligible students have been assigned a carpool match, this number is used to calculate maximum carpool potential. According to my findings, I determined that about 67 percent of students are carpooling eligible, and the maximum carpool potential is 47 percent of the student body. Therefore, my hypothesis was supported by the data. I also determined a number of economic and environmental benefits that could result from exercising the maximum carpool potential, and explored ideas of how to perhaps put the findings into effect.

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