Assessing the Carpool Potential and Benefits for Furman Employees

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Abstract

Each day, around 800* employees commute to Furman, driving a total of 8,905 miles on their way to school. This drive distance results in roughly 3.6 tons of CO2 being emitted every morning! There are many transportation systems with the goal of reducing the number of vehicles driven to work each day. From the subways in New York to the Bus System in Charlotte, cities across the country are trying to cut down on traffic and emissions. For a campus located outside of a major city, mass transit options are less likely to be approved, especially with the funding challenges that Greenlink, the Greenville County’s bus transit system, faces. In such a situation, alternate transportation solutions such as carpooling should be explored and implemented if necessary. The goal of this study was to examine the potential for carpooling among Furman employees and the possible benefits if the offering of carpooling to work rather than driving individually.

Specifically, the study examined the potential savings in driving distance, fuel usage, gasoline money used, and carbon emissions. The potential savings would significantly ease the burden that Furman daily commute has on the environment, as well as the resources of its employees. This study is aimed at proving that carpooling would be an effective as an alternate method of transportation, and that it would be beneficial for Furman to facilitate carpooling through some form of incentives. For the purposes of the study, a carpool was attributed to include 4 employees in each vehicle, and the vehicles were given the average gas mileage of US cars (24.7 miles per gallon). Gas prices were set at $2.10 per gallon.

Methods

* Note: Of the 952 total employees at Furman, 146 did not list their addresses on the Faculty Directory, and 8 employees listed addresses that were unrealistically far away. These addresses were taken out of the study area, so the faculty that were examined in the study were numbered at 798.

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The Greenville Community would benefit from the reduced number of vehicles on the roads as well as the resources of its employees. This study is aimed at proving that carpooling would be an effective as an alternate method of transportation, and that it would be beneficial for Furman to facilitate carpooling through some form of incentives. For the purposes of the study, a carpool was attributed to include 4 employees in each vehicle, and the vehicles were given the average gas mileage of US cars (24.7 miles per gallon). Gas prices were set at $2.10 per gallon.

Conclusion

Through the completion of this study, several things have been made clear:

• Furman University Employees would benefit from increased carpooling, both in money spent on purchasing gasoline and a reduction of total cars on the roads.

• Increased carpooling would help the University as well as the environment, with a 35% reduction in carbon emissions expected, and reduced demand for gasoline The University would benefit directly in the form of reduced carbon footprint.

• The Greenville Community would benefit from the reduced number of vehicles on the roads.

• This can also pave ways for developing new friendships, exchange of innovative ideas, and improving overall social environment at the University.

Results

Table 1: Table shows both the average and total drive distances and times. Also includes the number of employees in each neighborhood cluster, as well as the cars and the cars that will no longer be in use if a carpool system were to be implemented. Finally, the table shows the drive distance that would be saved for each neighborhood cluster in the event that carpooling were to take place, with the totals of each column posted at the bottom.

Table 2: Table shows the final results of the study. The first column shows the totals for the 266 cluster members without any transportation system. The second column highlights the potential savings due to carpooling.

References and Data Sources


References and Data Sources
