The relationship between gas prices and transit ridership trends in Vermont by county from January 2004 to December 31, 2013

Olivia Taylor

For my Honors Thesis, I researched gas price and transit ridership data in the rural state of Vermont by county in the time period from January 2004 to December 31, 2013. My research has addressed the topic of understanding transit ridership, specifically in rural or micropolitan areas. Previous literature suggests that there is a lack of research on the relationship between transit ridership and gas prices in rural areas. I have collected monthly ridership data from the various transit authorities around Vermont, and have taken into account fare changes, as well as additions of buses or bus routes within the time period. Using SPSS and Excel, I have analyzed the monthly ridership data with monthly gas price data in order to determine their relationship. I have discovered a significant correlation between public transit ridership and gas prices in both urban and rural counties in Vermont. However, there is a more significant correlation in urban counties then in rural, as expected. Additionally, I found the correlation became more significant once I lagged the gas price data. Using population density and information about each transit authority, I will be making claims about the effects of gas prices in Vermont on public transit ridership by county. In conclusion, I believe Vermont should adjust its gas tax in order to incentive the use of public transit in more urban counties where there is greater access to public transit.