Evaluating the Viability of Public Transportation: A Case Study

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The purpose of this project is to determine the viability and efficiency of commuting around my hometown, Midland, Texas, without the use of a personal vehicle. This question arose from the observation that the accessibility of public transportation around Midland is very limited, yet an efficient public transport system is a hallmark of almost any major city or developed urban area. From my initial observations, it was hypothesized that use of personal vehicle would be much more efficient than either using the existing bus system (EZ Rider) or commuting by bicycle. This question has numerous implications for increasing the efficiency of the current system, making recommendations for future improvements, and promoting awareness of the system around the city. Data collection takes place manually by riding the buses and physically collecting data fields such as trip duration, wait time, and bus schedule accuracy. Additional fields were collected depending on the type of transportation (see research plan). After data collection, each mode of transportation will be compared based on time of trip, cost, ease of access, safety, and other factors. The data collection took place over a period of about three months. Upon review, my hypothesis was supported in that the use of a public vehicle was much more efficient in every case tested. However, it was shown that the use of a bicycle was actually more efficient than the use of public transportation in multiple cases, suggesting flaws in the existing infrastructure of the EZ Rider system. Suggestions for improvement include an additional transfer center and more public access to information and bus information.

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