

## 2014 Huber Award Winner:

1. Describe how you have contributed academically to transportation research, transportation writing and/or other educational activities related to transportation. (500 words or less).

I have contributed to transportation research by working on the Center for Diesel Research Superbus Project to evaluate accessory power consumption and fuel economy of the next generation, advanced, hybrid diesel-electric transit buses. The outcomes of this project will directly impact the transit industry by providing key insight into the validity of claimed benefits to accessory electrification as well as engine start-stop features. My roles in this project have been to design, program, and implement three mobile data acquisition systems to allow wireless transmission of experimental data as well as real-time statistics. Currently the project is in the data-collection and analysis phase with most of the work focusing on the development of post-processing routines and upkeep of the vehicle sensors.

My other notable contributions have been the development of a low cost vehicle mass measurement system and my involvement in the creation of our publically viewable project website. The vehicle mass measurement system allows for real time monitoring of vehicle mass which directly correlates to passenger loading and is important when trying to understand vehicle operation. Vehicle statistics and the information produced from the mass measurement system are displayed in real-time on the aforementioned website I helped create, [www.jbcorps.com/bus-data](http://www.jbcorps.com/bus-data). This website is a great tool for diagnosing bus data issues as well as an excellent showpiece for the project partners which include the U of M Center for Transportation Studies, Cummins, Metro Transit, New Flyer, and BAE.

2. Explain how your experiences in transportation make you a good candidate for this award (500 words or less).

Starting junior year of my undergraduate education with my internship at MTS Systems and continuing into my graduate research, I have pursued transportation related research and activities compelled by my interest in improving the automotive and transportation industry. My academic courses have provided me with a solid understanding of transportation engineering concepts ranging from engine emissions and design to traffic analysis and reduction methods. Being a part of a Formula SAE team has given me a basis for everything involved in the vehicle design process and team management. Both aspects are crucial to spotting areas of the transportation field which could be improved and acting upon those improvements.

My current research with the Superbus Project and graduate studies at the University of Minnesota have by far been the best and most influential transportation related experience. I have learned how to evaluate vehicle performance by designing mobile data loggers and learning vehicle controller area networks. I have read multiple

publications regarding the positive and negative aspects of the giving me a balanced and realistic view of the transportation scene as it stands today. Through it all, I have worked in and around Metro Transit, an active transit organization, allowing me to see daily operations and the considerations involved with providing public transportation to a large metropolitan area. These experiences give me the tools, understanding, and knowledge required to advance the transportation industry making me an excellent candidate for this award.