1154-91-2838 **Julia E Vasile*** (`julia.vasile@stonybrook.edu`), 329 Miller Place Road, Miller Place, NY 11764. *Implementation of Toyota's e-Palette Mobility System to Develop Data-drivenOptimization of Transportation Networks.*

Toyota Motor Corporation is one of the world leaders in sales of hybrid electric vehicles. In 2018, in an effort to shift toward becoming a provider of mobility services, they revealed the e-Palette mobility model, a fully autonomous electric vehicle that could include various functionalities, such as transportation, delivery services, etc. The University of Tsukuba has a large campus where students and faculty may opt to use different modes of transportation. Due to traffic congestion, buses have been inefficient, resulting in longer and inconsistent waiting times. We propose that the introduction of e-Palettes could help reduce student waiting times and congestion. We introduce an e-Palette bus hybrid model, which outputs an optimal number of e-Palettes and buses that correspond to an optimal schedule. We propose that this hybrid model improves the current bus system at Tsukuba University by reducing waiting and travel times, particularly during on-peak hours. We compare waiting times and costs between a bus model, e-Palette model and hybrid model to compare efficiency in waiting times, as well as cost effectiveness. Furthermore, incentive analysis will show that our hybrid model is a beneficial alternative for consumers. (Received September 18, 2019)