

# Transit-SCORE Research and Outreach Update



## Greetings!

Welcome to the second T-SCORE University Transportation Center newsletter. We're now well into our second year and have a lot more to share about the results of our research and our plans moving forward. In the next several newsletters, we will share our completed thought leader interviews about the future of transit. In addition, we will share results from our own research, adding to knowledge impacting the transit industry. First up, in this edition, we are going to focus on micromobility, including self-powered scooters and bicycle sharing systems. Micromobility services of this type have become increasingly popular in recent years, resulting in both opportunities for innovation and challenges.

### In this issue:

◆ Read what industry thought leaders and experts think of micromobility

◆ Learn all about the center's latest micromobility-related research projects

## Thought Leaders in Transit: Micromobility

Experts agree that micromobility services share many similarities with more traditional transit; it is a capital investment, must offer high-quality services to be most effective, and best serves more densely populated areas. However, the consensus on its relationship to transit is less concrete. Some experts believe that micromobility services compete with transit, some argue that they don't have much of an impact, and others have done research that suggests that when leveraged appropriately, they can even compliment transit services. In fact, micromobility acting as a feeder into fixed transit services is a commonly identified opportunity among the experts interviewed. Other opportunities discussed included improved first-last mile

connectivity, improved health benefits for end users, and the inclusion of micromobility in future transit-as-service platforms. However, several experts emphasized safety concerns as scooters and e-bikes continue to share space with pedestrians and other vehicles. Financial feasibility, unforeseen environmental impacts, a lack of infrastructure and maintenance issues in lower-density areas were also cited as potential concerns that may prevent micromobility services from being leveraged appropriately.

## T-Score Research Corner

### Complement or Compete? The Effects of Shared Electric Scooters on Bus Ridership

This study aimed to assess the impacts of shared electric scooter (e-scooter) trips on bus ridership using Nashville, Tennessee as a case study. Trips were differentiated by purpose (utilitarian trips, daytime short errand trips, morning work/school trips, social trips, and entertainment district trips) and more than 1.4 million e-scooter trips were modeled. The results suggest that on a typical weekday, utilitarian shared trips, which are longer and have a direct route between the origin and destination, are associated with a 0.94% decrease in bus ridership. However, social shared e-scooter trips, which are evening trips in areas with many restaurants, are associated with weekday bus ridership increases of 0.86%. The net effect of e-scooters on weekday bus ridership is estimated to be -0.08%, which is nearly zero. Notably, the results indicate that some shared trips complement transit, suggesting that there's a potential for better integration between these two modes to improve mobility in urban areas. Ways that cities and transit agencies could promote this could include offering discounts or releasing ads saying "do not drink and ride, use transit". Transit and shared e-scooter operators could also offer integrated trip planning and fare payment to encourage using both modes. Also, better placement of shared e-scooters near bus stops could encourage integration. Overall, these findings can help inform city planners as they seek to integrate micromobility into their urban transportation systems. Click [here](#) to read the full study!

### A Method for Placing Shared E-Scooters Corrals Near Transit Stops

The findings of the above study on suggested that some shared e-scooter trips – particularly social trips – have the potential to complement public transit and possibly increase transit ridership. Therefore, this study sought to develop a method to identify locations to place shared e-scooter corrals near bus stops in Nashville, Tennessee, to encourage the use of shared e-scooters to connect to transit. This study proposed a mixed-methods approach that first used supervised machine learning to identify shared e-scooters trips that complement transit (e.g., social trips). Then, a multi-criteria scoring system was applied to rank bus stops based on shared e-scooter activity and bus service characteristics. Based on this scoring system, bus stops with the 50 highest scores were selected as potential locations for shared e-scooter corrals. Then, the capacity for the potential corrals (e.g., number of scooter parking spaces) was estimated based on the hourly shared e-scooter usage. The results suggest that the 50 proposed corral locations could capture about 44% of shared e-scooter demand. In addition, this study also discussed some practical aspects to could consider during corral installation, such as using curb space areas or on-street parking spots for shared e-scooter corrals. This study could guide the implementation of shared e-scooter corrals in Nashville and inform other cities about how to select locations for shared e-scooter corrals near transit. Click [here](#) to view the poster!

## T-Score in the News

[MARTA Tries to Lure Customers Back Mid-Pandemic](#)

We hope this issue was informative. For more information, on the center and related projects, please visit [our NEW website](#). Also, T-SCORE is looking for research partners for future collaborations, especially transit agencies. Please get in touch if you are interested!

Thanks for reading,  
Kari Watkins  
T-SCORE Director  
[kari.watkins@ce.gatech.edu](mailto:kari.watkins@ce.gatech.edu)

