Transportation Institute
UNIVERSITY *of* FLORIDA

STRIDE

Comparing Transit Ridership Fluctuations through Transit Agency Peer Groups
(Part 1 of Transit in the Era of Shared Mobility)

PROJECT OVERVIEW

Transit ridership has decreased steadily each year from 2014 to 2017 despite increasing urban populations and transit service investment. There are likely many reasons for changing ridership. Automobile ownership, parking availability, cheap fuel, ride-hailing services, poor network coverage, and low-frequency service have been cited as causing decreased ridership. These analyses have examined trends in national transit ridership levels or within specific agencies or regions. However, the magnitude and causes of ridership changes are likely to vary from place to place. Thus, comparing transit agencies and the areas they operate against similar peers may yield more informative results than examining national trends or only trends amongst large agencies. There is a wide range of transit agencies that serve different populations, operate different services, and have drastically different budgets. These and many other factors are likely to substantially affect operations and ridership.

RESEARCH GOALS

The study team compared trends within similar groups of agencies and metropolitan areas. Metropolitan areas that operate transit service were grouped based on a set of variables that affect ridership but are outside of agencies' control: total population, density, percent of zero vehicle households, and transit agency operating expenditures. Using Ward's method, metropolitan regions were clustered by mode family, separating mixed and dedicated right-of-way.

FINDINGS

Use of these clusters in ridership analysis suggests that changes in ridership are not uniform across modes and clusters. In addition, by conducting disaggregate level research in three cities (Portland, Minneapolis, and Miami), the study team found that the most productive routes are those losing the most ridership. Models also indicated that economic displacement of transit-dependent patrons may be causing ridership to decline in three systems studied. Future studies by the research team will extend this work by considering housing prices and ride-hailing usage.

IMPACTS

Identification of the peer agencies from the cluster analysis has enabled the analysis of transit ridership change by both the researchers and internally within transit agencies. This understanding of ridership is helping agencies improve the sustainability of transportation by identifying areas that are the greatest threat to their business practices. As agencies work to improve performance, they can use the peer agency metrics to identify areas for improvement.

WHO BENEFITS?

Transit agencies

RESEARCHER

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About STRIDE

The Southeastern Transportation Research, Innovation, Development & Education Center (STRIDE) is the 2016 Region 4 (Southeast) U.S. Department of Transportation University Transportation Center headquartered at the University of Florida Transportation Institute (UFTI).

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PRODUCT

Cluster analysis of transit agencies – The research produced a cluster analysis showing which transit agencies can be grouped as peers based on factors that influence transit ridership. Agencies can use their cluster to choose peer agencies for future benchmarking studies, a key component of strategic planning and process improvement.
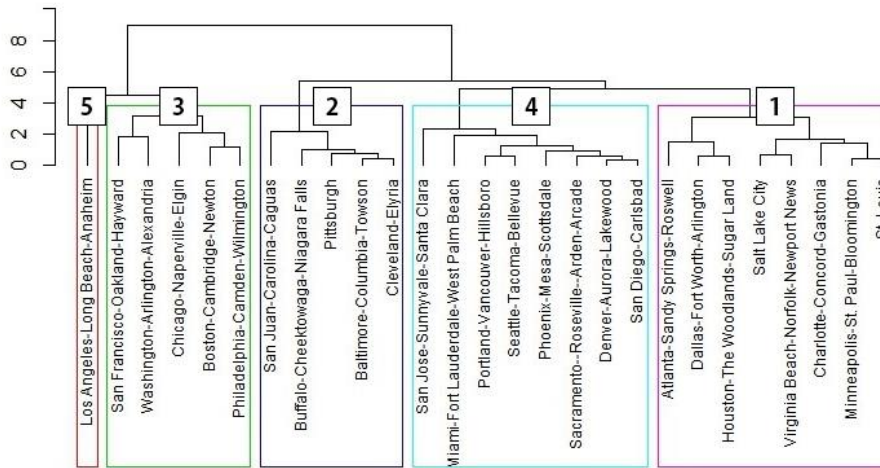

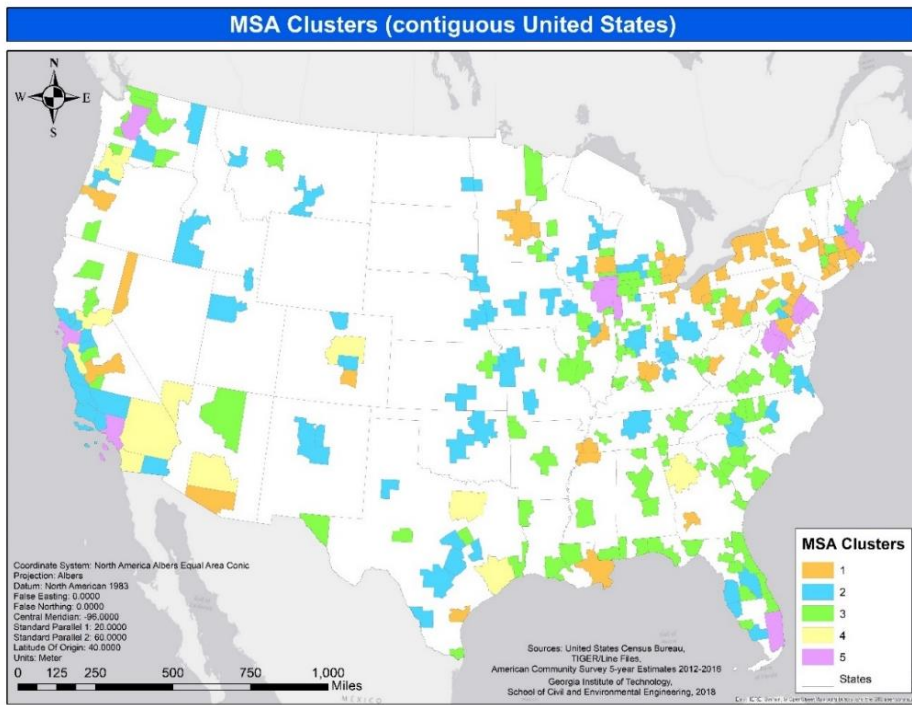Figure 1. Dedicated Right-of-way (Rail) Cluster Peer Agencies

Figure 2. Mixed Right-of-way (Bus) Cluster Peer Agencies

This research is part of STRIDE Project G (Transit in the Era of Shared Mobility). For more information, visit
https://stride.ce.ufl.edu/project-g/

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