TRANSIT DESERTS USA
GAPS IN TRANSIT SUPPLY & DEMAND

America's cities are growing faster than ever before. As of 2016 the Census Bureau estimates that over 60% of all Americans live in urban areas. Increasing urbanization present numerous problems, chief among them is the issue of transportation access. This research aims to identify areas where transit dependent populations are being underserved by existing transit networks. Transit deserts are areas in cities where transportation demand outstrips transportation supply. This concept was first developed by Dr. Jiao at Ball State University. The research team's previous work has looked at transit deserts in several US cities. This year they extend this research concept to more cities, conducted additional baseline analysis, and have been working to develop a software product based on this concept.

This research aims to identify areas where demand for transit exceeds the supply of transit. The primary research question is what areas of cities are being underserved by transportation. This research also hopes to answer the following questions: What methods should be used to measure transit supply and transit demand at the megaregional scale and how does this differ from measurement methods used at the city-scale?

Having developed methods to identify transit deserts, the research team wanted to understand if transit deserts were significantly different than non-transit deserts. To do this, they identified key infrastructure variables and transportation time variables. They use ACS data and various GIS data to calculate these metrics. In terms of the software product, they used Python and QGIS to develop an open source software product that can detect transit deserts given user specified data. A baseline analysis was conducted of transit desert areas vs. non-transit desert areas in 52 major cities.
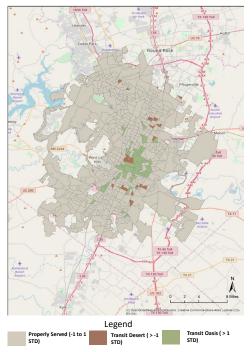
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Legend

Properly Served (-1 to 1 STD) | Transit Desert (> -1 STD) | Transit Oasis (> 1 STD)

Austin Transit Desert Map