



Technical Report 149

**EXECUTIVE SUMMARY:
Megaregional Trends of Passenger and
Freight Movement: Evidence from
National Transportation Data Sources**

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August 2018

Data-Supported Transportation Operations & Planning Center (D-STOP)

A Tier 1 USDOT University Transportation Center at The University of Texas at Austin



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Communications Group**

D-STOP is a collaborative initiative by researchers at the Center for Transportation Research and the Wireless Networking and Communications Group at The University of Texas at Austin.

Technical Report Documentation Page

1. Report No. D-STOP/2019/149		2. Government Accession No.		3. Recipient's Catalog No.	
4. Title and Subtitle EXECUTIVE SUMMARY: Megaregional Trends of Passenger and Freight Movement: Evidence from National Transportation Data Sources				5. Report Date August 2018	
				6. Performing Organization Code	
7. Author(s) Ming Zhang, Chandra Bhat, Caleb Roberts				8. Performing Organization Report No. Report 149	
9. Performing Organization Name and Address Data-Supported Transportation Operations & Planning Center (D-STOP) The University of Texas at Austin School of Architecture 310 Inner Campus Drive, B7500 Austin, TX 78712				10. Work Unit No. (TRAIS)	
				11. Contract or Grant No. DTRT13-G-UTC58	
12. Sponsoring Agency Name and Address United States Department of Transportation University Transportation Centers 1200 New Jersey Avenue, SE Washington, DC 20590				13. Type of Report and Period Covered	
				14. Sponsoring Agency Code	
15. Supplementary Notes Supported by a grant from the U.S. Department of Transportation, University Transportation Centers Program.					
16. Abstract In January 2017 the United States Department of Transportation (USDOT) designated thirteen Beyond Traffic Innovation Centers (BTICs) throughout the country. The BTICs set a clear focus on transportation research, education, and technology transfers in US megaregions. Megaregion is a concept originated from geography in the 1960s. The concept was rejuvenated at the turn of this century by urban and regional planners for spatial planning and research. The designation of BTICs signifies recognition of transportation-centered megaregion research and policy-making. This project investigated megaregional trends of passenger and freight movement by exploring national transportation databases and travel surveys. Designed to further conceptualize megaregions from the transportation planning perspective and identify trends and issues of megaregional mobility, this phase of the project completed the following tasks: 1) compiled historic data sets on passenger and freight flows at the national, metropolitan, and county levels; 2) developed a data-mining frame consistent with the megaregion concept; and 3) investigated and visualized passenger and freight flows. Future work in this area will focus on connecting the study findings to national megaregional transportation investment and policy-making and to state and regional transportation plans, with a focus on the Texas Triangle and the Gulf Coast megaregions.					
17. Key Words Megaregions, transportation, NHTS, BTS, Air Passenger flow, passenger travel			18. Distribution Statement No restrictions. This document is available to the public through NTIS (http://www.ntis.gov): National Technical Information Service 5285 Port Royal Road Springfield, Virginia 22161		
19. Security Classif.(of this report) Unclassified		20. Security Classif.(of this page) Unclassified		21. No. of Pages	22. Price

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Acknowledgements

The authors recognize that support for this research was provided by a grant from the U.S. Department of Transportation, University Transportation Centers.

Executive Summary

This project raised issues that demand more exploration. Pending the full final report that properly investigates such issues, this document is provided to summarize the project activities. Our primary goal was to determine whether passenger and travel data support transportation planning at the megaregion level rather than at the level of smaller jurisdictions.

1.1 Background

In January 2017 the United States Department of Transportation (USDOT) designated thirteen Beyond Traffic Innovation Centers (BTICs) throughout the country. The BTICs set a clear focus on transportation research, education, and technology transfers in US megaregions. Megaregion is a concept originated from geography in the 1960s. The concept was rejuvenated at the turn of this century by urban and regional planners for spatial planning and research. The designation of BTICs signifies recognition of transportation-centered megaregion research and policy-making.

1.2 Approach

This project investigated megaregional trends of passenger and freight movement by exploring national transportation databases and travel surveys. Designed to further conceptualize megaregions from the transportation planning perspective and identify trends and issues of megaregional mobility, this phase of the project completed the following tasks: 1) compiled historic data sets on passenger and freight flows at the national, metropolitan, and county levels; 2) developed a data-mining frame consistent with the megaregion concept; and 3) investigated and visualized passenger and freight flows. Future work in this area will focus on connecting the study findings to national megaregional transportation investment and policy-making and to state and regional transportation plans, with a focus on the Texas Triangle and the Gulf Coast megaregions.

1.3 Research Efforts

This project was designed to analyze the validity of the growth of megaregions in terms of transportation around the region. Our analysis of the 2009 National Household Travel Survey (NHTS) data found that another dataset was needed to capture the demand of travel in megaregions. Using data from the Bureau of Transportation Statistics T100 Airflow data, this project identified trends in air flow density (passengers/distance) throughout the country. The airflow density can show how many people are traveling from one region to another, providing a metric for the increase in demand for transportation on those routes. This project sought to determine whether growth is truly occurring in a way that supports a megaregional approach to transportation, either validating or challenging the claims made by America 2050 (the Regional Plan Association's national infrastructure planning and policy program).

1.4 Preliminary Findings

This project results do not address why people are making more long-distance trips but do show an increased demand on airways and highways. To most effectively plan transportation infrastructure, we need identify the motivations for long-distance trips. Airflow data shows how the megaregions are forming and demonstrate that this rate of growth will continue. Given this trend, cities and counties will need to practice some form of coordination at a regional level to handle the number of people in and out of their jurisdictions. Megaregion formation is not inhibited by jurisdictional boundaries and other bureaucratic issues that slow down collaboration. The task for planners is to help facilitate the existing demand for megaregional travel and provide safe, efficient means of travel.