

Study measures effects of congestion on access to jobs by car

September 21 2016

New research from the Accessibility Observatory at the University of Minnesota estimates the impact of traffic congestion on access to jobs for the 50 largest (by population) metropolitan areas in the United States.

The new rankings are part of the Access Across America study, which began in 2013. The rankings focus on accessibility, a measure that examines both land use and transportation systems. Accessibility measures how many destinations, such as jobs, can be reached in a given time.

"Rather than focusing on how congestion affects individual travelers," explained Andrew Owen, director of the Observatory, "our approach quantifies the overall impact that congestion has on the potential for interaction within urban areas."

Top 10 metro areas with the greatest loss in job accessibility due to congestion

- 1. Los Angeles
- 2. Boston
- 3. Chicago
- 4. New York
- 5. Phoenix
- 6. Houston
- 7. Riverside



- 8. Seattle
- 9. Pittsburgh
- 10. San Francisco

The study, which is based on data from 2015, also ranks access to jobs by car for the 50 largest U.S. <u>metro areas</u>.

"For example, the Minneapolis–St. Paul metro area ranked 12th in terms of job accessibility but 23rd in the reduction in job access due to congestion," Owen said. "This suggests that job accessibility is influenced less by congestion here than in other cities."

Top 10 metro areas with the greatest job accessibility by car

- 1. New York
- 2. Los Angeles
- 3. Chicago
- 4. Dallas
- 5. San Jose
- 6. San Francisco
- 7. Washington, DC
- 8. Houston
- 9. Boston
- 10. Philadelphia

To measure access to jobs by car, researchers calculated travel times using a detailed road network and speed data that reflect typical conditions for an 8 a.m. Wednesday morning departure. Additionally, the accessibility results for 8 a.m. are compared with accessibility results for 4 a.m. to estimate the impact of road and highway congestion on job accessibility.



Rankings are determined by a weighted average of accessibility, with a higher weight given to closer, easier-to-access jobs. Jobs reachable within 10 minutes are weighted most heavily, and jobs are given decreasing weights as travel time increases up to 60 minutes.

The report—<u>Access Across America: Auto 2015</u>—presents detailed accessibility and <u>congestion</u> impact values for each metropolitan area as well as block-level maps that illustrate the spatial patterns of accessibility within each area. It also includes a census tract-level map that shows accessibility patterns at a national scale.

The research was sponsored by the National Accessibility Evaluation Pooled-Fund Study, a multi-year effort led by the Minnesota Department of Transportation and supported by partners including the Federal Highway Administration and 11 state DOTs.

Accessibility Observatory reports, including the new analysis of job accessibility by auto (Access Across America: Auto 2015), are available at <u>access.umn.edu</u>.

Provided by University of Minnesota

Citation: Study measures effects of congestion on access to jobs by car (2016, September 21) retrieved 27 April 2024 from <u>https://phys.org/news/2016-09-effects-congestion-access-jobs-car.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.