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Year 24 Final Report

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Project Title:

UCNR24-32: t-HUB: Connecticut Public Transport Data Hub

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Introduction

This project supported expansion of a centralized public transport data center (dubbed "t-HUB" hereafter) for the state of Connecticut. t-HUB is a central data storage point, access point, management point and analysis point for transit operators and planners, hosted at the University of Connecticut. This data and analytical resource has many practical uses, among these being the statewide evaluation of system connectivity, identification of prime integration and connection points or corridors ripe for new/upgraded transit service or analysis of an integrated fare structure. The tool will enable the analyst to: 1) Glean aggregate equity metrics (system, corridor, census designation) at a glance and 2) Develop estimates of service change impacts on equity through a dynamic user interface.

t-HUB Workshop Series

In addition to software development, this project supported the execution of a full-day t-HUB workshop (the third in the t-HUB series in the past 3 years) in Hartford on September 24, 2014. Details and photos from the event can be found at the project website http://thub.uconn.edu. The project team demonstrated an alpha version of the t-HUB web application, receiving a great deal of feedback that was incorporated into the final version. Workshop Participants included:

1. Capitol Region COG
2. Connecticut DOT
3. FHWA
4. Central Connecticut RPA
5. CCNY
6. Greater Bridgeport Transit
7. Greater Hartford Transit District
8. Greater New Haven Transit District
9. Lower CT River Valley COG
10. Northeastern Connecticut Transit District
11. South Western Regional Planning Agency
12. Southeast Area Transit District
13. Windham Regional COG
14. Windham Regional Transit District

t-HUB Web Application

The t-HUB web application is currently available to any interested users at https://thub-web.engr.uconn.edu/. Anyone may sign up for a user account and access the current suite of tools, which focus on performance measurement and Title VI analysis. Systems currently available are limited to CTTransit systems in Hartford, New Haven and Stamford. However, because of the usage of GTFS as the underlying network data source, new systems can and will be incorporated in future. The existing tool includes an interactive analysis, automated report generation, raw data download and interactive mapping.

Publications & Presentations

Bertolaccini, K.; Lownes, N.E. and S.T. Waller (2015) Equity Modeling for Public Transportation Networks, *Proc. 94th Annual Meeting of the Transportation Research Board*, Paper #15-1173.

Denton, C. (2013)"A Web-based GIS for Measuring Equity in A Public Transportation System", American Association of Geographers, April 13, 2013: Los Angeles, CA.

Lownes, N.E. (2013) "Interactive Web-Based Mapping for Title VI Analysis and Public Transit System Data Management", GIS in Transit Conference, Washington, DC, October 16, 2013.

Lownes, N.E. (2013) "Leveraging big data for equity and efficiency in public transportation systems", Invited Lecture, University of New South Wales Transportation Seminar Series, Sydney, Australia, June 3, 2013.

Lownes, N.E. (2013) "Leveraging big data for equity and efficiency in public transportation systems", Invited Lecture, Monash University Transportation Seminar Series, Melbourne, Australia, May 31, 2013.

Lownes, N.E. (2013) "Leveraging big data for equity and efficiency in public transportation systems", Invited Lecture, University of Queensland Transportation Seminar Series, Brisbane, Australia, May 30, 2013.

Lownes, N.E. (2014) "Leveraging open data for measuring and optimizing equity and efficiency in public transportation systems", Invited seminar, *Bruce Podwal Seminar Series*, The City College of New York, April 8, 2014.

Lownes, N.E. (2014) "Leveraging open data for measuring and optimizing equity and efficiency in public transportation systems", Invited Seminar, Network Modeling Center, The University of Texas at Austin, February 14, 2014.

Lownes, N.E. (2014) "A Public Transportation System Performance Measurement Web Application", Region 2 UTC Transportation Technology Symposium, New York, NY, November 19, 2014

Lownes, N.E. (2015) "Integrated public transportation system measurement and analysis", Invited seminar, University of Nebraska-Lincoln, April 9, 2015.

Lownes, N.E.; Hart, N.; Osleeb, J.; Becker, T.; Denton, C.; Bertolaccini, K.; Mamun, S.; Jackson, E. (2013) The Connecticut Title VI Workshop: Building a Coordinated Strategy, Connecticut Transportation Institute, Report No. CTI-1-2013, Storrs, CT, March 2013.

Mamun, S.; and N.E. Lownes (2014) Access and connectivity tradeoffs in public transportation systems, *Transportation Research Record*, 2466:1-11.

Mamun, S.; and N.E. Lownes (2014) Access and connectivity tradeoffs in public transportation systems, *Proc. 93rd Annual Meeting of the Transportation Research Board*, Paper #14-5672.