# MOUNTAIN-PLAINS CONSORTIUM

RESEARCH BRIEF | MPC 17-318 (project 418) | March 2017

## 400 South Corridor Assessment


## the **ISSUE**

Utah Transit Authority (UTA) is expanding its LRT service in the Salt Lake Valley. The improvements in service will increase LRT frequencies in the downtown area, which will have impacts on transit and traffic operations. This study analyzes future operations and provides recommendations for minimizing impacts.

## the **RESEARCH**

Researchers collected and analyzed existing field data (traffic volumes, travel speeds and corridor levels of service for vehicular traffic and transit, traffic signal operations, intersection delays and intersection levels of service for different modes, transit ridership and pedestrian activity). Based on regional MPO planning models, the study assesses future conditions under the projected traffic and transit demand and perform analysis for different alternatives.

Traffic simulation software is used extensively in this study. It enabled researchers to assess different aspects of traffic operations for all modes and test different alternatives. The use of high-end applications, such as traffic signal control software-in-the-loop, ensures the credibility of the methods used and results. It also provided excellent learning tools for students involved in the project.

MOUNTAIN-PLAINS CONSORTIUM REGION 8

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## Project Title

400 South Corridor Assessment


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Utah Transit Authority

Utah DOT

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## the **FINDINGS**

The highest impacts are experienced at intersections closest to the downtown area and some intersections in the University of Utah area. After the detailed analysis, three improvement strategies are recommended to be considered for implementation.

The first is to change the phase sequence at 400 South and Main Street intersection, so that the LRT movements are served in conjunction with vehicular through movements, and to perform signal parameter optimization. The second recommendation is to modify the preemption settings for the intersection of N Temple and 400 W. The third recommendation is to optimize signal timing parameters for intersections in the University area based on the field data.

## the **IMPACT**

The recommended improvements were shared with the stakeholders, and some field implementations were considered. The study also provided a significant amount of data and results which will be used for future research and implementation of person-based methodologies for analyzing traffic and transit operations. The simulation models developed in this research included sophisticated traffic control systems that can be used for assessment of similar transportation systems.

For more information on this project, download the entire report at http://www.ugpti.org/resources/reports/details.php?id=867


For more information or additional copies, visit the Web site at www.mountain-plains.org, call (701) 231-7938 or write to Mountain-Plains Consortium, Upper Great Plains Transportation Institute, North Dakota State University, Dept. 2880, PO Box 6050, Fargo, ND 58108-6050.