Metro Transit Service Reliability Measures Assessment

PROJECT DESCRIPTION

The purpose of this research is to identify measures of transit service reliability that may be applicable to Metro Transit bus and light rail services and how they might be used most effectively by Metro Transit.

BACKGROUND

Metro Transit currently use one measure of service reliability for all bus routes. Buses within 1 minute early to 5 minutes late are deemed to be “on-time”. Buses outside that range are identified as either “early” or “late”. Metro Transit has an overall goal that bus service will be on-time 87.6 percent of the time. A different service reliability measure is used for light rail service. Trains within 4 minutes of scheduled time are deemed to be “on-time”. Metro Transit has goals of 95 percent and 90 percent on-time for the Blue Line and Green Line services, respectively.

Within the transit industry, there are several other measures of service reliability. Some examples are excess wait time and headway variation. These measures are often used on high frequency services as a measure of how customers experience the service as they wait for the next bus or train.

OBJECTIVE

The objective of this project is to explore different measures of transit service reliability, determine which ones are applicable to Metro Transit’s services, and provide a proof of concept of how these measures could be applied using available Metro Transit operations data.

SCOPE

This project will include the full range of Metro Transit’s bus and light rail services, but will not include commuter rail service. The study will also not include regular route or dial-a-ride services provided by the Metropolitan Council under contract or any transit services operated by suburban transit authorities.

The study will include analysis of bus and rail service using data generated in 2014 and 2015.