OVERCOMING BARRIERS TO
REAL-TIME TRANSIT INFORMATION

Real-time transit information has many benefits to offer transit riders and agencies, including shorter perceived and actual wait times, a lower learning curve for new riders, an increased feeling of safety, and increased ridership. In the last few years, a real-time complement to the General Transit Feed Specification (GTFS) format, GTFS-realtime, has emerged. GTFS-realtime has the potential to standardize real-time data feeds and lead to widespread adoption for transit agencies and multimodal apps. However, GTFS-realtime v1.0 has suffered from a lack of clear documentation and openly available validation tools, which significantly increases the time and effort necessary to create and maintain GTFS-realtime feeds. More importantly, bad data have been shown to have a negative effect on ridership, the rider's opinion of the agency, and the rider's satisfaction with multimodal apps.

This project focused on the community-driven creation of the GTFS-realtime v2.0 format, which establishes better guidance for transit agencies, application developers, and automatic vehicle location system vendors on what fields are required or optional under various transit use cases. The research team also collaborated with the GTFS community to create GTFS Best Practices. In parallel to these standardization efforts, the team developed an open-source GTFS-realtime validation tool (available online) to allow these same parties to quickly identify and resolve problems. To demonstrate the utility of the GTFS-realtime validator and capture the current state of real-time data quality in the industry, the Transit Feed Quality Calculator tool (also available online) was created to automatically download and validate a large number of agency feeds. Future work should focus on encouraging agencies to use GTFS-realtime v2.0 and the GTFS-realtime Validator. These efforts remove barriers to wide-scale adoption of real-time transit information, and stand to bring lasting benefits to riders and agencies.

Real-time transit data can increase ridership and improve service, but technical barriers have prevented wide-scale adoption. By standardizing formats and establishing best practices, this research made it easier for agencies to use real-time transit information.

PROJECT TITLE
Overcoming Barriers for the Wide-scale Adoption of Standardized Real-time Transit Information (#2018-1062)

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