Improving Access and Management of Transit ITS Data

Client

Transportation Research Board, (TRB),
Transit Cooperative Research Program
(TCRP)

Facts

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Project Country	United States

For the The Transportation Research Board's (TRB) Transit Cooperative Research Program's (TCRP), EBP led a team on the research and development of TCRP Research Report 235: Improving Access and Management of Public Transit ITS Data, which proposes a data structure for storing data from bus and rail intelligent transportation systems (ITS).

Transit intelligent transportation system (ITS) data, including automated vehicle location, automated fare collection, and automated passenger counter data can provide valuable insight into transit network performance. This data supports the estimation of key performance indicators (KPIs) that are critical for transit agency operation and planning.

Currently, transit ITS data is collected in a variety of formats and managed differently across agencies, preventing sharing of tools and methodologies between peers. This research developed a standard approach for accessing and managing transit ITS data.

Phase One included a review of existing data standards, stakeholder interviews, and a workshop to gather input from across the transit data user community. Based on the input collected, the team determined that the structure for managing these data types must be flexible enough to account for differences in public transit systems and data collection needs and practices and must support the estimation of KPIs including ridership and on-time-performance reporting.

Phase Two developed a data flow framework and a set of related files to store data. The team also specified tool requirements to support the transformation of data into the standardized structure, and for data cleaning and validation. In Phase Two, the research team conducted testing workshops with three transit agencies to determine how the data structure could support their data and processes. Based on input from the testing workshops and broader online feedback, the team revised the data structure. The report includes detailed file and field definitions and best practices as well as guidance for adoption.

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