Transit Data Standards
Informing Federal Policy and ITS Requirements

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Background

As the transportation sector evolves with the integration of information technology, organizations face decisions that will expose them to new technologies, relationships and risks. Accompanying a rise in transit-related web and mobile applications, a set of competing data standards from both public and private organizations have emerged.

272   6   ?   90

GTFS   TCIP   SIRI*   NextBus

Estimated number of U.S. transit agencies using respective transit data standards.

* Currently there does not exist a record of SIRI implementations. Part of this research will be to quantify this number.

Sources: City-go-Round (http://citygoround.org), American Public Transit Association (http://aptatcip.com) NextBus (http://www.nextbus.com)

Objective

The purpose of this research is to understand the forces that move the transit industry towards the widespread adoption of a data standard. This project will review and assess the development and evolution of transit data standards including:

- the **General Transit Feed Specification (GTFS)** ,
- the **Service Interface for Real Time Information (SIRI)**, a real-time standard maintained by the European Committee for Standardization (CEN); and
- **Transit Communications Interface Profiles (TCIP)** , an all-encompassing federal standard for transit systems maintained by the American Public Transit Association (APTA).

(a) U.S. transit agencies with open data

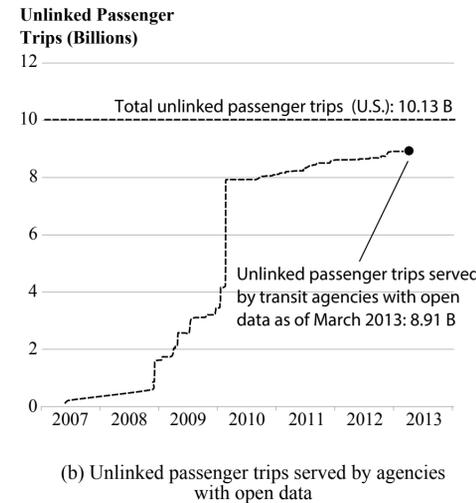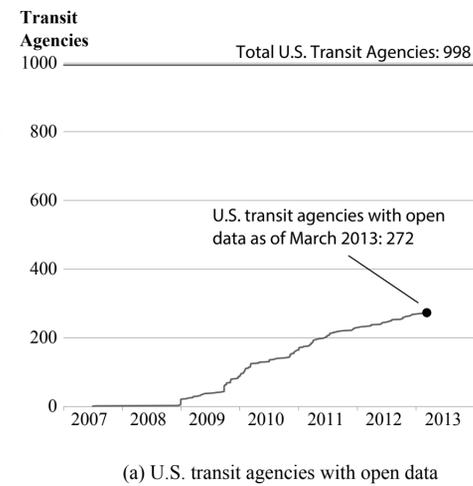(b) Unlinked passenger trips served by agencies with open data

Chart (Wong, 2013) showing the explosive growth of transit agencies openly providing GTFS by (a) agency and (b) unlinked passenger trips served, both of which serve as proxies for the adoption of this standard.

Note: Data indexed using 2011 NTD ridership. and agency statistics
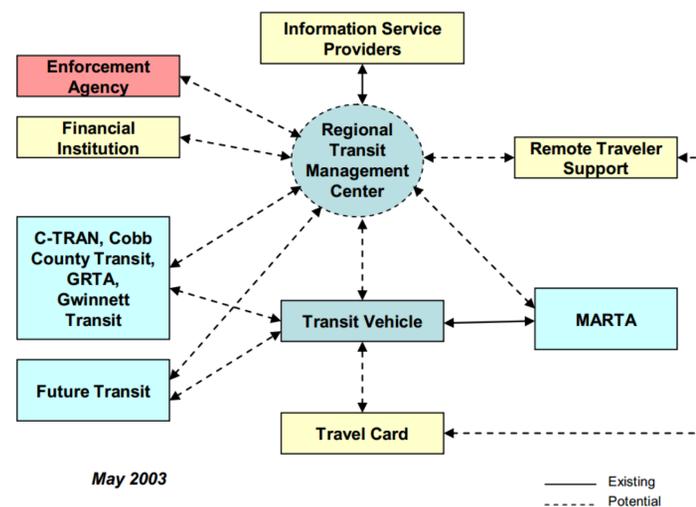Data Source: National Transit Database 2011, City-go-Round (http://citygoround.org)

Diagram (ARC, 2004) showing Regional ITS Architecture for metropolitan Atlanta transit regional fare integration, one possible application for a standard such as TCIP.

Methodology

The research will be conducted through three major components: (1) a literature review for both (a) standards setting in general and (b) the state of transit data standards; (2) a comparative sector analysis which will consider transit data standards in the context of the information technology and transportation sectors; and (3) a series of interviews with industry professionals to include (a) transit agency staff, (b) transit industry vendors and developers, and (c) standards bodies.

Expected Findings

The expected outcome of this research is an analysis of federal stances on standards policy as well as an assessment of current and future trends in this sector—both technical and institutional. results will inform federal transit policy and action in standards-setting and intelligent transportation systems (ITS) requirements, identifying the potential catalysts that will increase the effectiveness of federal and agency-level programs.

Sources:
ARC. (2004). Atlanta Regional ITS Architecture and Strategic Plan. Volume 1. Accessed April 1, 2013. http://www.atlantaregional.com/File%20Library/Transportation/Roads%20and%20Highways/tp_its_2011statusreport_062711.pdf

JC Wong. (2013). Leveraging the General Transit Feed Specification (GTFS) for Efficient Transit Analysis. *Proceedings of the 2013 Transportation Research Board Annual Meeting.*

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