



Mobility Apps

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ISSUE

An active and growing industry has emerged in the private sector, dedicated to providing travelers with real-time route and mode information by way of smart apps, many of which collect their data through crowd sourcing or anonymous polling of smart phone users as they move through the transportation system. These apps hold great potential in helping inform public agency policymaking, but there are challenges to incorporating them.

FINDINGS FROM THE PANEL

There are already examples of successful partnerships between mobile apps and public agencies. Panelist Di-Ann Eisnor, of Waze, described a joint project between her company and the City of Los Angeles during the temporary closure of the 405 freeway, or “Carmageddon.” As part of the city’s PR campaign to minimize traffic impacts, Waze enlisted its users to provide real-time traffic updates.

Panelist Alexandre Bayen, of UC Berkeley, noted that research institutions can help public agencies generate their own data collection tools. The UC Berkeley Bay Tripper, an early mobility app, integrated schedules and routes of more than 77 Bay Area transit agencies into a single platform. Another partnership between UC Berkeley and the State of California provided individual travel data for app users in the Bay Area, and served to supplement the state’s California Travel Survey. Research institutions can also play an important role in prototyping and testing new technologies, as was the case with Mobile Millennium, a joint effort between UC Berkeley and Nokia to monitor traffic and provide system-wide information on highway and arterial networks.

In creating and enhancing Google Transit, explained panelist Chris Harrelson, of Google, software engineers devised a way to collect and organize schedule data from different public transit agencies. This was developed in Portland when the local transit agency, TriMet, independently sought Google’s help in making its system data available in real time for smart phone users.

Panelist Scott Kolber, of Roadify, said that mobile apps were tools for making cities “smart.” Roadify provides a single-screen view of official transit agency real-time system status alongside user-generated content. Roadify has incorporated transit systems from numerous cities into a single app. Users can message one another as conditions change. Kolber noted how mobile apps can be integrated with other on-the-go information technologies such as event notifications, weather reports, merchant and services locators, and the like.

Panelists also pointed out some significant roadblocks to public agency adoption of these new tools. Public transportation agencies’ emphasis on providing the best service across the entire system and over the long run can clash with the private sector’s imperative to market short-term benefits to the individual traveler. Discussant Jose-

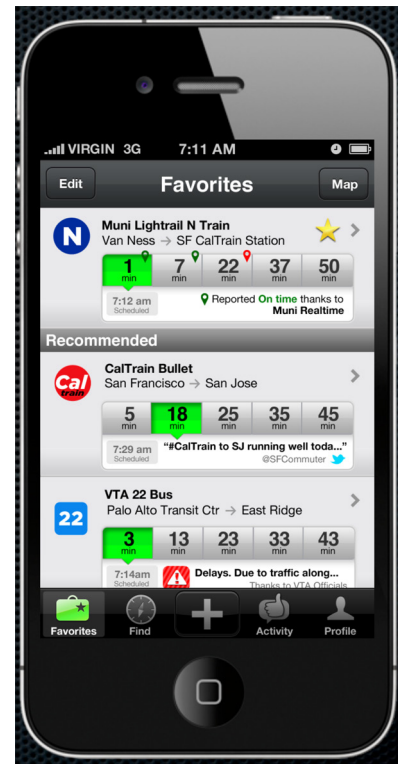


Figure 1. One screen from the Roadify transit app showing three options. Credit: Roadify

Luis Moscovich, of the San Francisco County Transportation Authority, underscored the importance of this distinction, questioning whether crowdsourcing strategies can provide information that can actually produce an optimized system.

Another set of concerns, Bayen noted, was the lack of standards to measure the value of a mobility app and ensure quality of the products, timeliness of the data, completeness in geographic coverage and access by all residents.

Additionally, government priorities, which favor a consolidated system of data collection and processing, can pose conflicts with the demands of innovation, which thrives when there is a wide array of differentiated products.

Finally, there are numerous concerns that a private company might be able to ignore, but that a public agency would be forced to consider. These include privacy protections, safety of app users while driving, equity with respect to data collection and dissemination, and travel behavior changes induced by mobility apps. For example, crowd sourced information is gathered from and utilized by only those residents who can afford and are inclined to use smart phones. As for externalities, transportation agencies must balance regional and local impacts. For example, Waze, a smart phone app that uses crowd sourcing to enable drivers to share alternate routes, may simply shift congestion from freeways onto surface streets.

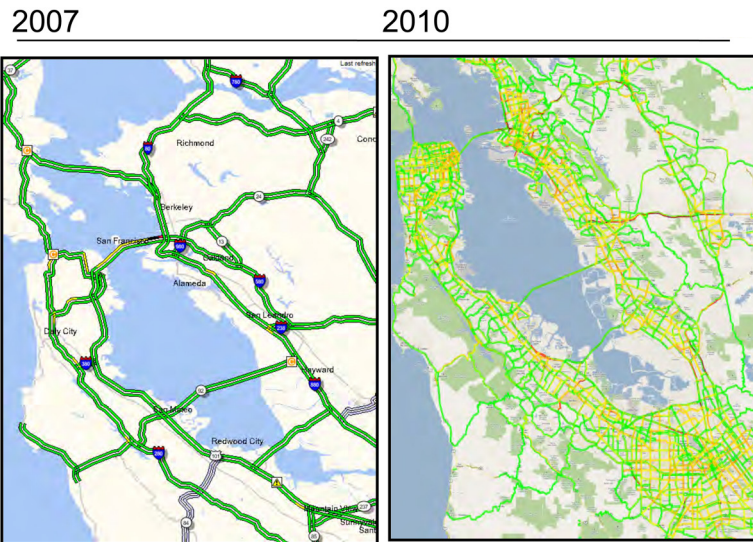


Figure 2. Traffic mapping capabilities have improved rapidly. Source: Alexandre Bayen, UC Berkeley

RECOMMENDATIONS

By itself, the creation of a better informed traveling public is limited in the ability to induce a mode shift; it must be paired with an actual upgrade to transit service to make transit more competitive with the private car. In addition, it is important for government agencies to reduce barriers to innovation without compromising their mission to serve the general public. Any efforts to incorporate innovative technologies into transportation planning must also involve coordination with land use and growth management policies.

PARTICIPANTS

Presenters

Di-Ann Eisnor, Waze
 Scott Kolber, Roadify
 Chris Harrelson, Google
 Alexandre Bayen, UC Berkeley

Moderator

Raja Sengupta, UC Berkeley

Discussant

Jose Luis-Moscovich, San Francisco County Transportation Authority

This is a Policy Note from the first panel in the third conference, "Sustainable Mobility & Cities: Marrying Technology and Policy," in the Sustainable Cities series held in 2011-2012 at UC Berkeley, organized by Berkeley Law, the College of Environmental Design, the Institute of Urban and Regional Development, the University of California Transportation Center and the Berkeley Program on Housing and Urban Policy.

The Ted and Doris Lee Fund sponsored the series.

