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Understanding social media program usage in public transit agencies



Jenny H. Liu^{a,*}, Wei Shi^a, O.A. (Sam) Elrahman^b, Xuegang (Jeff) Ban^{d,e}, Jack M. Reilly^c

^aToulan School of Urban Studies & Planning, Portland State University, P.O. Box 751, Portland, OR 97207-0751, United States

^bCenter for Infrastructure, Transportation and the Environment, Rensselaer Polytechnic Institute, 4039 Jonsson Engineering Center, 110 Eighth Street, Troy, NY 12180-3590, United States

^cDepartment of Civil and Environmental Engineering, Rensselaer Polytechnic Institute, 4030 Jonsson Engineering Center, 110 Eighth Street, Troy, NY 12180-3590, United States

^dDepartment of Civil and Environmental Engineering, University of Washington, 121G More Hall, Seattle, WA 98195, United States

^eCollege of Transport and Communications, Shanghai Maritime University, 1550 Haigang Avenue, Pudong, Shanghai 201306, China

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ABSTRACT

Social media has been gaining prominence in public transit agencies in their communication strategies and daily management. This study aims to better understand recent trends in social media usage in public transit agencies, to examine which agencies use what kind of social media programs for what purposes, and how they measure their programs. A survey was conducted of the top transit agencies in the nation, and results are examined through descriptive statistical analysis, correlation analysis and regression modeling. We found that while most agencies still lack clearly-defined goals and performance metrics to guide their social media development, many are increasing their social media capacity with more structural components. Public transit service usage and the level of transit service provision are the most significant determinants of agencies' social media programming and resource investments. In contrast, the measurement of social media usage and outcomes is more significantly related to city attributes and demographic characteristics. We anticipate an increase in the usage of social media to convey transit related stories and livability benefits, such as environmental sensitivity or safety improvements, as these programs expand. Public transit agencies' commitment to measuring social media outcomes underscores the future research need to develop best practices for measuring the impacts and performance of social media communications and investments.

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Introduction

Many government agencies at the federal, state and local levels have been increasingly adopting social media as a communication mechanism for representation, engagement and networking (Mergel, 2013; TCRP, 2012), particularly after President Obama's 2009 memorandum (2009) that calls for executive agencies to "harness new technologies" to promote

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* Corresponding author.

E-mail addresses: jenny.liu@pdx.edu (J.H. Liu), shiwei@pdx.edu (W. Shi), oe@alum.rpi.edu (O.A. (Sam) Elrahman), banx@uw.edu (X. (Jeff) Ban), reillj2@rpi.edu (J.M. Reilly).

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transparency and participatory public engagement. This paper focuses on social media within public transit agencies particularly due to the frequency and intensity of information exchanges and interactions between these agencies and the population that they serve on a daily basis (e.g., transit system alerts, live transit arrival information, service disruptions, etc.).

In addition, research shows that a growing number of public transportation agencies are already using a variety of social media platforms to inform and engage riders, but there is less systematic understanding of specifically who uses what social media platform for what kind of purposes, and a significant lack of insight into the effectiveness, efficiency and other performance measurements of the usage of social media programs. The existing social media metrics mainly focus on collecting data with little analysis and provide few guidelines for future social media development in the public transportation operations. Therefore, there is room to improve our understanding of how and why public transit agencies are using social media and to establish effective performance metrics and analysis methods to guide the development of social media programs in public transit agencies to meet their goals and objectives.

Thus, this study seeks to understand how public agencies characterize the structure of their social media programs, the goals, strategies and objectives associated with social media usage, and performance metrics currently employed to measure outcomes. We begin with a literature review of existing studies about social media usage trends and characteristics, and the usage of social media in public agencies. We follow with a description of our public transit agency social media survey, data and methodology. Next, we present findings from our descriptive statistical analysis, correlation analysis and multivariate regression analysis, followed by a discussion of the conclusions, future research directions and policy implications.

Background & literature

Public transportation agencies are increasing their use of social media, which calls for better understanding of social media usage characteristics. [Bregman and Watkins \(2014\)](#) researched best practices for transportation agency use of social media and found that almost every state department of transportation, many public transit agencies, and airports have a social media presence, representing a dramatic revolution in how governments interact with its constituencies. Generally, agencies use the following types of social media platforms: social and professional networking, blogging, micro-blogging, media and document sharing sites, social curation, geolocation and crowdsourcing. For example, Facebook is a social networking platform and Twitter is a micro-blogging platform, but both are commonly used for public transit information updates and event announcements. While Facebook interactions focus on storytelling that position agencies as engaged community members, and Twitter is more rider-focused with consistent updates. Other social media platforms may serve niche purposes, such as Instagram, Flickr or Pinterest for image-focused communications, and LinkedIn for professional networking ([MacDonald, 2015](#); [Mainka et al., 2014](#)). In 2011, 54% of public transportation agencies used Facebook, 51% used Twitter, and 37% used YouTube ([The Use of Social Media by Transportation Agencies, 2011](#)). There is a general consensus that social media is a worthy investment for public transportation agencies, but a survey on transportation providers across the US found that although 94% of them use some forms of social media, only 28% had a social media plan or strategy prior to implementation ([Chin et al., 2012](#)).

Understanding the people who utilize social media, particularly which groups of the population interact using which platforms for which purposes, is another important dimension in identifying the most effective structures or approaches for social media programs at public transit agencies. Unsurprisingly, research has shown that the younger generation is the dominant demographic group in the realm of social media participants ([Chou et al., 2009](#); [Duggan and Brenner, 2013](#)), as “digital natives” ([Prensky, 2001](#)). [Chou et al. \(2009\)](#) and [Correa et al. \(2010\)](#) both identified women as more likely to be engaged with social media than men, while education levels and race/ethnicity are not significant predictors of social media usage. Pew Research Center conducted a study in 2013 ([Duggan and Brenner, 2013](#)) that found further demographic differences amongst different platforms, which may impact social media strategies employed by agencies in order to reach different segments of the population for various purposes. The researchers found that Facebook attracts more women and young adults, Twitter specifically attracts a larger percentage of African-Americans and urban users, while Pinterest appeals to more white women with some college education experience. On the other hand, Instagram appears to attract more minorities within urban areas, such as African-Americans and Latinos.

Transportation agencies mainly utilize social media to establish direct lines of connections with customers, share stories, manage emergencies, address customers' concerns, widen the reach of agencies and enhance government transparency. [Raymond and O'Hara \(2014\)](#) synthesized the usage into the four Es of social marketing: to entice participation, to exchange information, to engage, and to experience. It is also an important tool for agencies' marketing plans and emergency management ([TCRP, 2012](#); [Bregman and Watkins, 2014](#); [Kavanaugh et al., 2012](#)). Recent studies have found that engaging in interactive communications through social media could improve the overall image of an agency ([Schweitzer, 2014](#); [Marshall, 2015](#)). Interactive messages that respond directly to questions, concerns, and comments received more positive sentiments and fewer slurs directed at patrons, independent of actual service quality, even if agencies respond only to a select number of tweets each day. For example, the Southeastern Pennsylvania Transportation Authority (SEPTA), who consistently ranked at the bottom of customer sentiments measured by the number of negative Twitter comments, improved their opinion score by 70% only one year after they introduced its customer service dialog feed to run parallel with its blast feed ([Schweitzer, 2014](#)).

Another study found that creatively using crowdsourced information with social media can help to address the limitation of losing control of large amounts of outgoing information under staff shortage, thereby increasing the reliability of real-time

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