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TRANSIT COOPERATIVE RESEARCH PROGRAM

TCRP SYNTHESIS 156

Uses of Social Media in Public Transportation
A SYNTHESIS OF TRANSIT PRACTICE

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Public Transportation

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2022

TRANSIT COOPERATIVE RESEARCH PROGRAM

The nation's growth and the need to meet mobility, environmental, and energy objectives place demands on public transit systems. Current systems, some of which are old and in need of upgrading, must expand service area, increase service frequency, and improve efficiency to serve these demands. Research is necessary to solve operating problems, adapt appropriate new technologies from other industries, and introduce innovations into the transit industry. The Transit Cooperative Research Program (TCRP) serves as one of the principal means by which the transit industry can develop innovative near-term solutions to meet demands placed on it.

The need for TCRP was originally identified in *TRB Special Report 213—Research for Public Transit: New Directions,* published in 1987 and based on a study sponsored by the Urban Mass Transportation Administration—now the Federal Transit Administration (FTA). A report by the American Public Transportation Association (APTA), *Transportation 2000,* also recognized the need for local, problem-solving research. TCRP, modeled after the successful National Cooperative Highway Research Program (NCHRP), undertakes research and other technical activities in response to the needs of transit service providers. The scope of TCRP includes various transit research fields including planning, service configuration, equipment, facilities, operations, human resources, maintenance, policy, and administrative practices.

TCRP was established under FTA sponsorship in July 1992. Proposed by the U.S. Department of Transportation, TCRP was authorized as part of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). On May 13, 1992, a memorandum agreement outlining TCRP operating procedures was executed by the three cooperating organizations: FTA; the National Academies of Sciences, Engineering, and Medicine, acting through the Transportation Research Board (TRB); and the Transit Development Corporation, Inc. (TDC), a nonprofit educational and research organization established by APTA. TDC is responsible for forming the independent governing board, designated as the TCRP Oversight and Project Selection (TOPS) Commission.

Research problem statements for TCRP are solicited periodically but may be submitted to TRB by anyone at any time. It is the responsibility of the TOPS Commission to formulate the research program by identifying the highest priority projects. As part of the evaluation, the TOPS Commission defines funding levels and expected products.

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Because research cannot have the desired effect if products fail to reach the intended audience, special emphasis is placed on disseminating TCRP results to the intended users of the research: transit agencies, service providers, and suppliers. TRB provides a series of research reports, syntheses of transit practice, and other supporting material developed by TCRP research. APTA will arrange for workshops, training aids, field visits, and other activities to ensure that results are implemented by urban and rural transit industry practitioners.

TCRP provides a forum where transit agencies can cooperatively address common operational problems. TCRP results support and complement other ongoing transit research and training programs.

NOTICE

The report was reviewed by the technical panel and accepted for publication according to procedures established and overseen by the Transportation Research Board and approved by the National Academies of Sciences, Engineering, and Medicine.

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COOPERATIVE RESEARCH PROGRAMS

ABOUT THE TCRP SYNTHESIS PROGRAM

Transit administrators, engineers, and researchers often face problems for which information already exists, either in documented form or as undocumented experience and practice. This information may be fragmented, scattered, and unevaluated. As a consequence, full knowledge of what has been learned about a problem may not be brought to bear on its solution. Costly research findings may go unused, valuable experience may be overlooked, and due consideration may not be given to recommended practices for solving or alleviating the problem.

There is information on nearly every subject of concern to the transit industry. Much of it derives from research or from the work of practitioners faced with problems in their day-to-day work. To provide a systematic means for assembling and evaluating such useful information and to make it available to the entire transit community, the Transit Cooperative Research Program Oversight and Project Selection (TOPS) Committee authorized the Transportation Research Board to undertake a continuing study. This study, TCRP Project J-7, "Synthesis of Information Related to Transit Practices," searches out and synthesizes useful knowledge from all available sources and prepares concise, documented reports on specific topics. Reports from this endeavor constitute a TCRP report series, Synthesis of Transit Practice.

This synthesis series reports on current knowledge and practice, in a compact format, without the detailed directions usually found in handbooks or design manuals. Each report in the series provides a compendium of the best knowledge available on those measures found to be the most successful in resolving specific problems.

FOREWORD
By Mariela Garcia-Colberg
  Staff Officer
  Transportation Research Board

During the past 20 years, social media has provided transit agencies with unparalleled opportunities to connect with their customers. The current synthesis topic will update *TCRP Synthesis 99: Uses of Social Media in Public Transportation* and will again explore the use of social media among transit agencies. The study will document innovative and effective practices in the United States and Canada.

The objective of the study was to analyze the way that transit agencies communicate with their audiences through the use of social media. It was also to synthesize the reasons why transit agencies use social media and to explore which social media platforms are used and how, the applications and metrics used by transit agencies, and the measurements of social media effectiveness.

A literature review and completed survey responses of social media practices of 46 transit agencies were collected. An analysis on the state of the practice, emphasizing lessons learned, current practices, challenges, and gaps in information is provided. Seven case examples representing a variety of agencies were also developed.

Subasish Das and his team from Texas A&M Transportation Institute collected and synthesized the information and wrote the report, under the guidance of a panel of experts in the subject area. The members of the topic panel are acknowledged on page iv. This synthesis is an immediately useful document that records the practices that were acceptable within the limitations of the knowledge available at the time of its preparation. As progress in research and practice continues, new knowledge will be added to that now at hand.

CONTENTS

SUMMARY

Uses of Social Media in Public Transportation

The 21st century has witnessed the birth of a new mode of communication among people around the world: social media. Social media includes many different web-based applications, available on desktops, laptops, smartphones, and so forth, that allow users to interact with one another via the Internet. Some social media examples include social networking sites (e.g., Twitter, Facebook, and Telegram), media-sharing sites (e.g., Instagram, TikTok, YouTube, Vimeo, and Twitch), and professional networking sites (e.g., LinkedIn). Social networking sites are online platforms where users build social networks or social relationships with each other, and share similar personal or career interests, activities, backgrounds, or real-life connections. Media-sharing sites enable users to store and share their multimedia files (e.g., photos, videos, and music) with others. Professional networking sites are used to establish and maintain professional contacts. Individuals can gain opportunities for career networking and accessing resources by using these professional platforms. The lives of many people worldwide have been impacted by social media because it provides them with a platform to reach many people at once with little time and effort. The general public's increased ability to access and afford the Internet has also created a surge in social media activity. People use social media to access information, express their opinions, participate in surveys, and share information.

Transit agencies have begun to use these social networking tools, and their purpose for use typically falls into the following five categories:

- **Timely updates and crisis information:** using media to share real-time service information and advisories with the public.
- **Public education and awareness:** using social media to provide the public with information about services, fares, updates on ongoing and future projects, and special service-related information.
- **Public engagement:** using aspects of social media to engage with the public based on their feedback and sentiment via social media analysis.
- **Transit promotion:** using social media as a means of promoting transit services and increasing ridership.
- **Support of and influence on organizational goals:** collecting data from social media to advocate for organizational goals and regulate them as well.

The synthesis study for Transit Cooperative Research Program Project J-07, Topic SB-33: Uses of Social Media in Public Transportation, explores the use of social media among transit agencies and documents successful practices in the United States and Canada. Information was gathered through a literature review, an online survey, and several case examples. The study was conducted in three phases. First, a literature review of existing research on social media use by transit agencies was conducted. Then, an online survey was designed and conducted by targeting transit agencies with different services and spatial locations.

1

The survey questionnaire was designed to learn how the agencies use social media to share information, raise public awareness and impart education, improve public engagement, promote transit agencies, and influence organizational goals during normal and crisis conditions. Following the survey, the study team selected seven agencies for case examples (six U.S. agencies and one Canadian agency) with unique practices based on the survey responses.

As the field of social media has been drastically changing in recent years, many advanced studies have been conducted. The literature search was limited to the five key categories discussed. The literature review found that transit agencies are driven by motivations to use social media to reach out to customers effectively and directly. The literature review is divided into several sections to help readers understand different scopes of social media usage by transit agencies.

A total of 75 transit service providers in the United States and Canada were invited to participate in the online survey. Only transit organizations known to use one or more social media platforms were asked to participate. The study team acquired 60 survey responses (an 80-percent response rate). Some of the survey responses were removed from the final survey analysis because they had missing or inadequate information. A total of 47 complete survey responses (from 46 transit agencies; both a social media strategist and a marketing manager from the same agency participated in the survey) were used in the final survey data analysis. Based on the survey results, seven case examples were developed to describe innovative and successful practices in more detail. The agencies that participated in the case example study were

- Bay Area Rapid Transit District in San Francisco, CA
- Miami-Dade Transit in Miami, FL
- CyRide in Ames, IA
- Transit Authority of Northern Kentucky in Fort Wright, KY
- Central Midlands Regional Transit Authority in Columbia, SC
- Capital Metropolitan Transportation Authority (Capital Metro) in Austin, TX
- Halifax Transit in Halifax, Canada

Several barriers to improving user satisfaction and serving the best interest of audiences or followers were raised through the survey responses and case examples. Key challenges cited by survey respondents included preventing misinformation during crisis management, tracking interactions and feedback, and facing time constraints for posting. A brief description of frequent barriers and challenges follows:

- As also noted in the literature, providing information is one of the principal reasons transit agencies use social media, and the main challenge was the lack of sufficient means to provide the necessary information. With the advent of technologies and the availability of smartphones, another alarming challenge has emerged—the rapid spread of misinformation through social media. Most of the surveyed agencies see this as a major challenge.
- Professional opinions about the future of social media differ, but the consensus is that the presence of interactive media is here to stay. Transit agencies are challenged to keep up with this dynamic environment and adapt accordingly.
- Internet access for people with disabilities has improved greatly in the past few years, but social media platforms are still behind in terms of accessibility. While providing valuable information, the heavy use of images, videos, and user-generated content has created many accessibility challenges that need to be tackled.
- Agencies reported that it is difficult for them to track interactions and feedback. Only one-third of the surveyed agencies use third-party services like Archive Social, Sprout

Social, Hootsuite, and so forth, for archiving social media interactions. A few agencies only archive abusive content, and others keep histories of all interactions within the platforms. Several participating agencies do not have any procedure for archiving social media interactions, and about one-third of the agencies did not respond to this question. Most of the agencies also stated that the lack of resources, funding, and staff might contribute to this barrier.

- Many agencies expressed concern regarding time constraints for posting.
- Several of the survey respondents viewed online criticism as a "very important barrier."
- The line between personal and professional lives is continually blurring. Therefore, taking action to address employee social media use is a matter of concern for public- and private-sector agencies.

The participating agencies in the case examples provided a number of lessons learned for ensuring better service through social media. Some good practices and lessons include the following:

- Create a designated social media manager and spokesperson. Thus, it will be easier to communicate social media engagements and effectively achieve company goals.
- Focus on time management and respond promptly while serving the audience. These aspects are important for the image of the agency.
- Communicate proactively about upcoming services to make social media sites accessible to marginalized populations (e.g., people with disabilities) and to expand the agency's outreach to broader audiences.
- Focus on comments and complaints to take necessary steps to resolve any issue for building trust and relationships with riders.
- Apply advanced tools to provide real-time service alerts, set up dedicated service advisories, and integrate livestream and video options into social media handles to improve user experience.
- Avoid negativity and heated arguments on official social media pages.

This synthesis report acknowledges the following gaps in knowledge or areas for additional study:

- **Social media policy:** Although industry professionals believe that having a social media strategy policy is essential, only a limited number of transit agencies in this study indicated having a policy in place. Additional study could aim to identify aspects of social media policies that are relevant to public transit agencies.
- **Prevention of misinformation:** Misinformation in social media is a key hurdle. Transit agencies do not have sufficient tools or staffing to handle misinformation, and more advanced tools and research are needed to prevent it.
- **Social media metrics:** A majority of the surveyed agencies measured social media effectiveness via built-in metrics (e.g., the number of followers) and via third-party applications (e.g., Google Analytics). These metrics can offer a good activity overview but do not provide all of the information that agencies may require to fully analyze their social media success. Thus, additional study is needed for evaluating the use of social media in disseminating service information and increasing ridership. For example, experimental trials designed for testing different strategies to increase outreach on social media by comparing paid or boosted content with nonpaid posts can provide insight into the need for exploring different approaches.
- **Integration with other agency activities:** Only a few participating agencies reported integrating social media with traveler and citizen information services, despite the growth of mobile applications. Further study could identify the potential for better coordinating social media with other platforms for providing agency information.

CHAPTER 1

Introduction

Background

Social media platforms include various web-based applications that are accessible via the Internet using a web browser or smartphone apps. People use these social media platforms to interact with one another online. Many transportation agencies have begun to integrate social media use into their marketing and communications strategies. While the goals vary, the agencies generally use social media to reach out to potential riders, communicate with current riders, strengthen community connections, and promote the agency's branding and messaging. Some agencies also use social media to assist with customer service and gather feedback about programs and services from stakeholders.

The previous synthesis report, *TCRP Synthesis 99: Uses of Social Media in Public Transportation,* provided valuable insights but is a decade old (Bregman 2012). There have been many changes in the social media platforms since the publication of the previous synthesis. For example, some older social media platforms (e.g., Klout) were shut down, and there has been an emergence of many new platforms (e.g., TikTok, WeChat, and Telegram). Additionally, there has been rapid growth of smartphone ownership in recent years. Because there have been drastic changes in the social media landscape, this synthesis aims to determine the current impact of social media uses by transit agencies.

Objective and Scope

The goal of this synthesis study is to provide relevant information about the current state of the practice in transit agencies to explore social media interaction. This report summarizes the reasons why agencies use social media, including public education and awareness, public engagement, quick updates, and crisis information; support of and influence on organizational goals; and promotion of transit. The synthesis report also explores the following: which social media platforms are used and how; the applications and metrics used by agencies; measurements of social media effectiveness; guidance on policies, procedures, and processes for social media interactions and usage; strategies and tactics used to reach audiences; agency branding; and the resources allocated to agencies' social media efforts.

Technical Approach to Project Study

The study was conducted in three major phases: a literature review of existing research and transit agency examples related to social media usage patterns, an online survey targeted toward transit agencies, and in-depth case examples of selected transit agencies that responded to the survey.

Literature Review

First, the study team conducted a review of the relevant literature, including previous research and transit agency examples of active social media usage. The study team focused on social media platforms, usage patterns, public education and engagement, and information collection to improve transit services. The scan searched through academic sources and reports as well as regular search engines using keywords relevant to the study topics.

Survey of North American Transit Agencies

Second, the study team developed a list of North American transit agencies with the relevant information found in the literature review on social media usage. The study team developed a survey questionnaire to learn more about agency practices in social media usage. The survey was structured into the following sections: social media platforms, agency considerations, challenges and barriers, lessons learned, and future needs. This survey had conditional logic built in to allow agencies to skip over nonapplicable questions. Appendix B of this report contains the final survey questionnaire.

The study team developed a list of 75 transit agencies as the potential survey participants. The request to complete the survey was sent to the selected transit agencies. Out of the acquired 60 responses, 13 responses were discarded because of incomplete submission. For the final survey analysis, 47 complete responses (from 46 transit agencies) were used. Figure 1 provides a map of the transit agencies (Halifax, Canada, is not shown) that completed the survey and participated in the case examples.

Figure 1.   Locations of survey respondent agencies except for Halifax, Canada.

Table 1.   Case example agencies.

No.	Agency	City	State	Service Area	Principal Mode	Annual Ridership
U.S. Agencies						
1	San Francisco Bay Area Rapid Transit (BART) District	Oakland	CA	Large urbanized area (population over 200,000)	Heavy rail/ subway	14,990,092
2	Miami-Dade Transit (MDT)	Miami	FL	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/ subway, paratransit services	81,600,000
3	CyRide	Ames	IA	Small urbanized area (population 50,000–200,000)	Bus	4,577,482
4	Transit Authority of Northern Kentucky (TANK)	Fort Wright	KY	Small urbanized area (population 50,000–200,000)	Bus	2,482,528
5	Central Midlands Regional Transit Authority (the COMET)	Columbia	SC	Both rural and urbanized areas are served	Bus, streetcars and trolleys, vanpool, paratransit services	2,300,000
6	Capital Metropolitan Transportation Authority (Capital Metro)	Austin	TX	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/ subway, paratransit services	22,798,913
Canadian Agency						
7	Halifax Transit	Halifax	NS	Large urbanized area (population over 200,000)	Bus, paratransit services	30,400,000

Case Examples

After the survey was complete, seven agencies were selected as case examples. The primary selection was based on the agency size, geographic locations, and different perspectives of social media usage as well as their responses about unique practices. The final selection was made after consulting with the panel members. Out of seven case examples, three case examples consisted of guided interviews with agency staff to gather further details from the survey responses. Table 1 lists the case example participant agencies. The case example details are included in Chapter 4.

Organization of the Report

This synthesis report includes five main chapters, back matter, and four appendices:

- *Chapter 1: Introduction* provides an overview of the report, a brief summary of the study approach and tasks, and an outline of the structure of the synthesis report.
- *Chapter 2: Literature Review* contains the findings of the relevant literature search.
- *Chapter 3: Survey* provides a brief overview of the conducted survey. The survey questions are related to the usability of different social media platforms, the current state of the practice, barriers, and future needs.
- *Chapter 4: Case Examples* includes seven case examples. Case examples contain information on social media usage, motivations, and efforts related to customer engagement, information sharing, and crisis management. The case examples also highlight notable practices at the transit agencies with a particular focus on agency type, use of social media platforms, innovative practices, and relationships needed for success.
- *Chapter 5: Conclusions* summarizes the information of this synthesis in the form of key findings, barriers and challenges, and unique practices. The chapter also discusses potential areas

identified for further study needed on customer engagement via social media platforms used by transit agencies.

- *Glossary of Terms* is provided because social-media-related studies contain many new and innovative terms and platforms.
- *References* provides a list of sources cited.
- *Abbreviations and Acronyms* is a list to orient the reader to abbreviations and acronyms used in the report.
- In the appendices, Appendix A lists the name and relevant information of the participant agencies. Appendix B provides the survey questionnaire. Appendix C provides the responses of all survey questions in the form of tables and figures, and Appendix D documents useful social media metrics for the case example transit agencies.

CHAPTER 2

Literature Review

Introduction

In recent years, transportation agencies have used social media for a variety of reasons, such as communicating with present and potential riders, collecting passenger data, distributing information, gathering feedback, and improving the agency's image (Bregman 2012). The current study aims to review the recent literature about social media use by transit agencies, especially focusing on many advanced studies that have been conducted in recent years to address the issue. The current review focuses on a wide range of scientific articles and reports on the best practices and lessons learned by transit agencies while using social media. The literature review section considers both U.S. and international studies on this issue.

This chapter contains the following sections:

- Practices to provide information such as service alerts, ongoing promotions, and general guidance to the riders.
- Various techniques adopted by transit agencies and recommended by several studies for capturing public attention, reaching out to current and potential riders, and improving the interaction between transit agencies and the public. This section also presents a review of the extraction and analysis of sentiments and opinions about transit agencies from social media data.
- Studies about collecting location, crash, traffic, ridership, and other passenger information from social media. The use of information to find characteristics like mobility patterns, mode preference, and crash-prone zones is also included in this section.
- Studies on transit promotion via social media.
- How to use social media for meeting organization goals.
- A review of studies that have surveyed transit agencies regarding their techniques and practices related to social media use. This section suggests some best practices and explains cautions and challenges for transit agencies while using social media.
- A review of papers that explore the link and effect of the transportation sector on other sectors (e.g., economic and social sectors) and vice versa. This section also includes discussion of studies containing several methodologies and strategies for deploying social media tools for a variety of purposes.
- Key findings.

Information Sharing and Feedback Collection

Providing information and collecting feedback are the primary reasons that transit agencies use social media (Liu and Ban 2017). This chapter reviews the literature that discusses strategies for effectively deploying social media to pass information to the riders and collect feedback such as complaints, comments, and service requests.

Crawford (2013) surveyed people in nine locations around the world about their preferred method of receiving information from transit agencies. The study found that a vast majority of people preferred receiving information such as promotions and fares through social media. Respondents also preferred a paperless ticketing system and were hugely in favor of increased technology use in public transit.

Several researchers have proposed methods for using the ability to provide real-time information on web-based platforms, including social media. Providing information to riders in real time is vital to the successful operation of the daily activities of transportation agencies, and therefore solutions such as developing apps and websites, providing text alerts, posting information, and answering queries on social media accounts have been suggested. Ma et al. (2017) proposed a framework named MOBility ANAlyzer (MOBANA) for providing real-time integrated information from different sources, including social media. The authors demonstrated the capability of the developed platform to classify texts, provide the real-time position of vehicles, and filter information from tweets. Mahmood et al. (2017) looked at the problem of transit disruption in Pakistan resulting from violent activities in Karachi. The authors designed an algorithm that could detect locations affected by violence and inform bus riders in real time via Twitter. In a case study by Chan and Schofer (2014), communications by transit agencies in New York during Hurricane Sandy were analyzed. The study found that users received extremely important information through Twitter. Pender (2014) and Pender et al. (2014a, 2014b) highlighted the efficiency of social media networks in relaying information during service disruptions. Douglass et al. (2018) also measured social media's effectiveness for establishing firm and fast communication between transit agencies and riders.

However, Tomasic et al. (2016) highlighted the problems associated with providing real-time information through Really Simple Syndication (RSS) feeds or Twitter. The authors demonstrated that riders could easily miss information on such platforms because it requires a lot of effort to navigate to the appropriate source of information. The authors suggested using more consistently structured messages for better communication of real-time alerts to riders. Moreover, data from information and communications technology (ICT) are susceptible to various security challenges. Beecroft (2019) reviewed several studies and identified several challenges using several ICT sources, including social media. The authors advised caution to transit agencies in adopting a practical approach against such threats.

The collection of web-based feedback from both current and potential riders has several benefits and challenges. Some of the benefits include the ability to collect feedback in real time, participation of a larger audience, reduced workload on call centers, increased cost-effectiveness, and the ability to collect information in a safe and secure way (Watkins et al. 2015). The authors provided a tool kit to transit agencies of all sizes for collecting customer feedback through several social media platforms, surveys, and other applications. Choudhury (2013) further discusses the use of technology to gather better rider information. The author suggested that transit agencies should make an integrated platform that assists riders by connecting their social media accounts to their contact centers and payment platforms. A similar solution was discussed by Ferreira et al. (2017), who presented a platform called OneRide that integrated social media with payment and route-planning sites. The effectiveness of the app was demonstrated in Porto, Portugal.

Watkins et al. (2015) also highlighted the various challenges of using social media. The challenges mentioned by the authors include providing accessibility to all demographic groups, protecting users' private information, dealing with a lack of resources and staff, and understanding how to manage negative feedback. Table 2 lists the aims and key findings of some of the mentioned studies in tabular format.

Table 2.   Studies focusing on social media usage for information sharing and feedback collection.

Study	Location/Agency	Social Media Platform	Aim	Key Findings
Choudhury (2013)	—	—	Explore ways to improve passenger information systems and communication with riders	Technology including social media can be used
Crawford (2013)	South Korea, Brazil, Germany, France, Spain, United Kingdom, and United States	—	Understand passengers' attitudes regarding technology in nine major cities	90 percent of people say they would prefer to receive information through social media
Chan and Schofer (2014)	New York	Twitter	Examine communication by transit agencies regarding transit disruptions	Showed that Twitter is a firm source of information for riders during natural disasters
Pender et al. (2014b)	Melbourne, Victoria, Australia	Twitter and Facebook	Examine the management of unplanned passenger rail disruptions	Showed significance of social media usage
Watkins et al. (2015)	—	—	Seek best practices among transit agencies for improving the collection of feedback from riders	Developed a tool kit for transit agencies
Tomasic et al. (2016)	Port Authority of Allegheny County, Metropolitan Transportation Authority (MTA)	Tiramisu Transit App and Twitter	Provide real-time information to riders	Improved the structure of message alerts
Ferreira et al. (2017)	Porto, Portugal	OneRide	Provide information to riders with ease	Developed an app to integrate mobile payment, social media, and route planning
Ma et al. (2017)	Pavia, Italy	Twitter	Provide real-time public transit information	Developed the platform MOBANA
Mahmood et al. (2017)	Karachi, Pakistan	Twitter	Provide real-time information about recent violent activities affecting transit	The developed framework could detect locations hit by violence to inform riders and then suggest alternate routes
Douglass et al. (2018)	Tyne and Wear Metro system in Tyne and Wear, United Kingdom	—	Measure the effectiveness of a transit agency's social media engagement with travelers	Only 40 percent of surveyed people checked the transit agency's social media page at least three times a week
Beecroft (2019)	—	—	Identify security-related issues in public transportation	Data collected from ICTs are susceptible to several issues

NOTE: A dash means not applicable.

Public Engagement and Sentiment Analysis

Transit agencies over the years have expressed their desire to analyze rider satisfaction and attitudes toward traveling via their service. Traditionally, various methods of interaction have been used to engage with riders. However, with the rising popularity of social media, it is now easier than ever to reach out to current and potential riders. This section reviews studies that have used data from social media and performed sentiment analysis to analyze rider satisfaction and opinions toward transit agencies (see Table 3 for some of the key studies discussed as follows).

Schweitzer (2014) inspected social media practices of transit agencies and their effect on rider sentiment. The author recommended interacting with users directly on social media rather than merely announcing information on agencies' feed to produce a relatively more positive sentiment. Vlk and Hauger (2015) advised transit agencies to use status messages of users on popular social networking platforms such as Twitter and Facebook to analyze personal sentiment. Casas and Delmelle (2017) mined text from Twitter by searching for keywords

Table 3.   Studies focusing on social media usage for public engagement and sentiment analysis.

Study	Location/Agency	Social Media	Aim	Key Findings
Schweitzer (2014)	—	Twitter	Perform sentiment analysis	Interactive conversations have positive effects
Vlk and Hauger (2015)	—	Facebook and Twitter	Analyze personal sentiment	Status messages can contain information about personal sentiments
Casas and Delmelle (2017)	Cali, Colombia	Twitter	Capture public perceptions regarding transit	Leading concerns of riders regarding public transportation were behavior of fellow passengers, transit infrastructure, and safety
Haghighi et al. (2018)	—	Twitter	Assess transit performance	Use topic modeling instead of a keyword search to better extract the information from tweets
Kim et al. (2019)	New York metropolitan area	Twitter	Analyze feedback	Identified the area of feedback and the sentiment of the message
Qi and Costin (2019)	Miami-Dade County	Twitter	Perform sentiment analysis	User habits greatly influence sentiment value
Zhang et al. (2019)	China	—	Perform content analysis of public social media data	Opinions and problems were analyzed using LDA
Osorio-Arjona et al. (2021)	Madrid Metro, Spain	Twitter	Explore social media semantic perceptions	The main issue was punctuality in key stations, especially in early weekday mornings
Das and Zubaidi (2021)	New York and California	Twitter	Perform sentiment analysis	Created a framework by developing multilevel sentiment analysis/emotion mining and politeness measures

NOTE: A dash means not applicable; LDA = latent Dirichlet allocation.

and then applied contentment analysis. The study showed that the leading concerns of riders regarding public transportation in Cali, Columbia, were the behavior of fellow passengers, transit infrastructure, and safety. Haghighi et al. (2018) suggested using topic modeling instead of a keyword search to better extract the information from tweets. The study then performed tweet-per-topic index-based sentiment analysis to understand rider feedback and causes of dissatisfaction. Kim et al. (2019) collected user feedback from Twitter and developed a deep learning framework to classify the feedback based on the area of transit services such as cleanliness, mobility, or timeliness. Furthermore, the sentiment from each tweet was classified as positive or negative. Zhang et al. (2019) collected information about public opinions via a web crawler and used latent Dirichlet allocation (LDA) to categorize them based on opinions and traffic problems. Osorio-Arjona et al. (2021) extracted topics and sentiments from Twitter via text mining and artificial intelligence algorithms. The extracted information was then mapped based on location and time to inspect any underlying patterns. Qi and Costin (2019) stressed the need to perform such analysis because the authors demonstrated that user habits greatly influence sentiment value. Delays and breakdowns infuriate people, and often riders express this in their social media posts. Das and Zubaidi (2021) collected transit-related tweets from New York and California to perform sentiment analysis and measure politeness.

Gathering Passenger Information

The collection of passenger information such as mobility patterns, rider demographics, mode preference, and rider behavior is important to transit agencies because the information can help agencies tailor their strategies and campaigns to the interests of their riders. For this purpose, many researchers have tried to come up with ways to collect rider information and characteristics. This section reviews such studies with a focus on using social media data to gather information (see Table 4 for some of the key studies discussed as follows).

Gkiotsalitis and Stathopoulos (2016) collected the mobility data of riders traveling to joint leisure activities from social media in order to optimize transit vehicle timings and routes. Cottrill et al. (2017) examined the information-sharing practices on social media by transit agencies during the Commonwealth Games in 2014 hosted by Scotland. The study highlighted the leading role played by social media in communicating efficiently with riders to successfully execute transportation throughout the games. Similarly, Imran et al. (2015) collected information about Chinese residents living in New Zealand through social media to understand their travel mode choices. Lantz et al. (2015) demonstrated the use of data collected via social media and location-tracking mobile applications in developing countries for various purposes. Zhang et al. (2016) mined data from social media to extract rider information in special cases. Both unplanned (e.g., a road crash) and planned (e.g., a sports game) events were taken into consideration in this study. The authors predicted passenger flow and detected a road crash using social media data. In addition, the developed algorithm was able to establish a relationship between increased traffic flow and social media data. Ni et al. (2017) also forecasted ridership using data from social media (particularly Twitter). The authors first proposed an algorithm to detect events based on hashtags and then, using several models, predicted an increase in passenger flow resulting from large public gatherings. Blumenberg and Taylor (2018) analyzed the changes in the travel behavior of Millennials as a result of technological and social changes. Chandra et al. (2020) displayed a successful strategy to change the travel mode preference of college students. Using the crowd-based perception of students posting on Twitter, the authors observed that there was an increase in walking and biking, while the use of other modes (e.g., a car) decreased.

Table 4.   Studies focusing on social media usage for gathering passenger information in order to understand customer characteristics and needs.

Study	Location/ Agency	Social Media Platform	Aim	Key Findings
Imran et al. (2015)	Auckland	—	Explore the travel behavior of Chinese residents living in New Zealand	Identified the communication, expectations, and perception gaps between institutional practices and Chinese users of the public transportation systems
Lantz et al. (2015)	Nairobi, Kenya; Istanbul, Turkey; and Dhaka, Bangladesh	—	Integrate online media with location-based social media posts and mobile-phone location tracking	Ethnicity is a critical factor in explaining travel behavior
Gkiotsalitis and Stathopoulos (2016)	Stockholm, Sweden	Twitter	Improve the operations of demand-responsive public transportation	Social media has great potential to inform and manage the planning and operation of transit networks in developing countries
Zhang et al. (2016)	MTA	Twitter	Mine Twitter data	Developed effective and efficient techniques to extract social media data
Ni et al. (2017)	—	Twitter	Predict subway passenger flow with social media data	Developed robust models to improve the demand-responsiveness of public transportation systems
Cottrill et al. (2017)	Glasgow, Scotland	Twitter	Mine Twitter data	Data from social media can be used in producing an effective network of communication between public transportation agencies and passengers
Blumenberg and Taylor (2018)	—	—	Travel behavior	Explored travel behavior of Millennials as a result of technological and social changes
Chandra et al. (2020)	California State University, Long Beach, CA	Twitter	Mine information from social media to estimate any changes in mode-shift behavior of college students	Developed a crowdsourcing-based perception framework

NOTE: A dash means not applicable.

Transit Promotion

One of the main goals of transit agencies is to effectively reach their users and provide quality services to them. This section reviews studies that have discussed social media deployment strategies for effectively reaching out to riders and subsequently increasing agencies' rider base (see Table 5 for details of some key studies).

Several studies have reported that a relatively younger class of people (e.g., Millennials and individuals who are under 24 years old) use public transportation rather than personal vehicles (e.g., Yang and Cherry 2017). Many studies have focused on observing the behavior of teens and young adults and devising strategies to attract them. For example, Delbosc and Currie (2015) identified that increased use of social media among young adults leads to more frequent traveling. Shafer and Macary (2018) looked at effective ways to communicate with young people. The authors found that young people were unlikely to participate via text messages and disliked targeted messaging. Instead, the authors recommended that transit agencies use social media. The study also indicated that most young people in the Portland, OR, region held

Table 5.   Studies focusing on social media usage in transit promotion.

Study	Location/Agency	Social Media Platform	Aim	Key Findings
Pinkett and Wylie (2013)	Australia and the United Kingdom	Twitter, Facebook, YouTube, Instagram, and so forth	Find social media platforms' functions	Each social media platform has a different function
Abellera and Panangadan (2016)	California high-speed rail	Twitter	Analyze the spread of influence in social media	Developed a tool to identify most popular influencers
Shafer and Macary (2018)	Portland, OR	—	Engage youths in use of public transportation	Young people dislike targeted advertising, such as for transportation service providers, and prefer to use public transportation
Groth (2019)	Rhine, Germany	—	Explore multimodal behavior	Fear of breach of privacy leads to social exclusion
Bjerkan and Øvstedal (2020)	—	—	Examine the inclusion of people with difficulties in transport	Websites need to be more readable and comprehensible

NOTE: A dash means not applicable.

a positive attitude toward public transit and preferred to avoid the use of personal cars until they were old enough to afford driving one.

While certain research focuses on targeting specific audiences, Pinkett and Wylie (2013) focused on devising strategies to market to all riders and matching social media platforms with the types of information delivered. Abellera and Panangadan (2016) examined the spread of influence on Twitter and identified individuals who exerted the greatest influence on social media. These individuals could have been used by transit agencies to effectively reach the public and could be the potential face of future campaigns. Dau-Ngo et al. (2013) stressed the importance of public outreach and participation during the planning stages of transit projects and suggested using several platforms, including social media, for this purpose.

While many studies recommended the use of social media for reaching out to riders, some advised cautionary measures to ensure inclusiveness and reach out to all riders, including vulnerable population groups. For instance, Bjerkan and Øvstedal (2020) reviewed studies about the barriers that people with disabilities face when accessing transport. The authors stressed the need for screen-readable websites and high-contrast texts for better readability and comprehension. Nisar and Prabhakar (2018) suggested framing messages concerning particular objects. In many consumer markets, such as train journeys, firms frame messages in both positive and negative lights to persuade individuals to make purchase decisions (i.e., take intended journeys). The authors emphasized the important role that marketer-generated content plays in shaping social-media-based consumer-relationship management strategies.

Support of and Influence on Organizational Goals

This section reviews studies that have recommended some best practices as well as some precautions about using social media for meeting the organizational goals of transit agencies (see Table 6).

Table 6.   Studies focusing on social media usage for understanding best practices to meet organization goals.

Study	Location/ Agency	Social Media Platform	Aim	Key Findings
Pinkett and Wylie (2013)	Australia and the United Kingdom	Several	Discuss the benefits and concerns of using social media	Identified what works best for a specific type of interaction with an individual or community in social media
Kaufman and Moss (2014)	—	—	Perform transit management using web-based rider input	Provided strategies to address the concerns presented
Kinawy et al. (2017)	—	Twitter	To pitch transit projects to the local community by extracting topics of interest	There was a mismatch in the interests of the local community and ideas pitched by transit authorities
Nikolaidou and Papaioannou (2018)	—	Several	Mine and analyze social media data	Provided direction to tailor information to the platform
Weisenford et al. (2018)	Several agencies, including the Chicago Transit Authority	YouTube and Facebook	Document the best models of technical training programs in various media, including social media	Provided directions on using each social media platform according to its different type of function
Liu et al. (2019)	Several agencies, including the Utah Transit Authority	Twitter	Improve communication with riders	Built a novel and open-source socio-transportation analytic toolbox to integrate social media and GTFS data

NOTE: A dash means not applicable.

Nikolaidou and Papaioannou (2018) reviewed multiple studies to inspect the appropriate use of social media platforms by transit agencies. The authors found that social media could be used for a variety of purposes, including analyzing mobility patterns, detecting traffic incidents, and determining public opinion. The most effective social media platforms for each purpose were identified. For example, Foursquare could be used to collect information regarding mobility patterns and trip purpose, and Facebook could be useful for increasing public participation and engagement.

Kinawy et al. (2017) focused on pitching transit projects to the local community by extracting topics of interest from Twitter. Through case examples, the authors reported that there was a mismatch in the interests of the local community and ideas pitched by transit authorities. Liu et al. (2019) made a toolbox for integrating General Transit Feed Specification (GTFS) data and social media data. The authors suggested that by using this platform, transit agencies could achieve multiple objectives, such as assessing the agency's performance, identifying areas needing an infrastructure boost, evaluating the efficiency of a particular network, and many others. Weisenford et al. (2018) identified several tools to train transit authorities. The authors found several benefits and challenges of using social media for this purpose. Some of the benefits included quick access to information, the ability to create a more interactive and dynamic community of learners, and the potential to reach a mass audience. Some challenges identified were the requirement of facilitators to be knowledgeable about social media tools and the requirement for active engagement of the learners. Kaufman and Moss (2014) highlighted the need for co-monitoring systems in order to establish a firm and fast line of communication between transit agencies and riders. Furthermore, the authors highlighted some benefits, challenges, and policy change recommendations associated with using such systems.

Table 7.   Studies focusing on survey studies of transit agency promotions.

Study	Location/Agency	Social Media Platform	Aim	Key Findings
Stewart and Cochrane (2018)	Sydney, Australia	—	Explore the usage of digital innovation in the mass transit system environment	Social media is used for customer support and promotion of the app
Howard (2019)	United Kingdom	Twitter	Measure Twitter-based customer engagement	Twitter is instrumental in providing customer service, and several policy recommendations are made

NOTE: A dash means not applicable.

Surveys on Transit Agency Practices

This section focuses on studies that have surveyed transit agencies regarding their techniques and practices related to social media use (see Table 7).

Stewart and Cochrane (2018) looked at the digital practices of Novo Rail in Sydney, Australia. The authors reported that the agency used social media to answer customer queries and promote their main app, NovoView. Through interviews with the social media staff of train-operating companies, Howard (2019) found that Twitter was the main platform used to provide efficient customer service. The author also recommended several policy changes that could help improve communication with riders and ultimately enhance the reputation of the agency.

Other Issues

This section explores studies of the effect of transportation on other sectors and vice versa (see Table 8 for details of the key studies).

The reviewed studies have proposed several methodologies and strategies for deploying social media tools for a variety of purposes. Meyer and Shaheen (2017) inspected the economic impact of transportation changes, such as the increasing ride-share services and the growing influence of social media and technology. Jiang and Mondschein (2019) estimated

Table 8.   Studies on social media usage in different transportation sectors.

Study	Location/Agency	Social Media Platform	Aim	Key Findings
Jiang and Mondschein (2019)	Seven cities across North America and Europe	Yelp	Measure the willingness to travel by rail for nonwork-related purpose	Using a location-based social media platform, researchers showed that land use around a rail station impacts the willingness to travel by rail
Klingen (2019)	Paris, France	Twitter	Explore the effect of a Twitter announcement of metro disruption on public bicycle use	Public bicycle use increased
Chen and Yang (2020)	China	WeChat	Improve the design of city areas	Researchers used data from social media to identify key problem locations and rectify them
Li et al. (2020)	Guangzhou, China	Tencent social media (TikTok)	Establish a relationship between rail transit and built environment	Based on social media exploration, researchers made suggestions to increase rail transit ridership

the willingness of a person to take public transit to travel to nonwork locations and the effect of distance on the person's decision. The study used location-based information from Yelp for this purpose. The study found a high correlation between land usage around rail stations and the choice of riders to take a train to commute. A similar study, conducted by Li et al. (2020), collected geospatial information from the China-based social networking platform Tencent (TikTok) to extract built-environment data in order to analyze Tencent's effect on rail passenger flow. The study further identified areas in cities that require an upgrade in infrastructure to meet citizens' needs. The proposed methodology could directly impact transit agencies by increasing their ridership, and the methodology may facilitate coordination between land use and public transportation. Klingen (2019) studied the effect of Twitter announcements about metro disruption on the usage of rental bicycles. The study found that the usage of rental bicycles increased substantially, and the probability of finding an empty bike station increased by 15 percent during a metro disruption. Chen and Yang (2020) used data from WeChat in China to identify traffic and facility shortage problems resulting from an increase in tourist activities. The data were then used to redesign the neighborhood and subsequently decreased conflicts between tourists and the host community.

Key Findings

The key findings from the literature reviewed are as follows:

- Several researchers have deployed social media platforms to reach out to riders (especially people under the age of 25 and Millennials). However, it is important to match social media platforms with the appropriate type of content to maximize outreach. Precautions could be taken to be inclusive and reach out to all (potential) riders.
- Riders prefer to receive information through social media. Social media has an important role in increasing rider participation and establishing a direct line of communication with riders. Integrated platforms could greatly benefit transit agencies in better managing communication with riders and providing services more efficiently.
- Social media can be deployed to collect real-time feedback from riders in the form of comments, complaints, or service requests.
- Data from social media can be used to mine key information about mobility, traffic, safety, transport mode preference, and so forth, and can aid transit agencies in making well-informed decisions.
- Data from social media (especially Twitter) could be used to analyze the opinions and sentiments of riders about transit agencies. Strategies such as conducting interactive conversations with riders have a positive effect on sentiment.
- Many surveys to date indicated that a majority of transit agencies are using social media. However, most of them do not have a well-defined goal or metrics to assess the performance of their social media ventures.
- Transit agencies can use passenger data, riders' feedback, and sentiment analysis to achieve multiple organizational goals such as improving the agency's performance, developing a positive image, facilitating better communication with existing and potential riders, modifying infrastructures, evaluating the network, and meeting other important milestones.
- Few studies highlighted the problems associated with data collection and information distribution via social media. Some solutions include using structured and consistent messages, adopting a practical security approach, and using the transit agency's own app for communication with riders.

C H A P T E R   3

Survey

Background

The study team developed a survey questionnaire to learn more about the social media engagement of the transit agencies. The survey topics and questions were primarily based on the knowledge of practices learned during the literature review as well as the knowledge and expertise of the study team. Based on the survey responses, this chapter describes the types of social media platforms used by transit agencies and their strategies related to public outreach, goals, and branding. This chapter also includes the social media policies of transit agencies, the scope of information shared using the platforms, the importance and effectiveness of social media for communicating with the target market, barriers that agencies face, and the resources allocated for social media engagement. The survey was developed in Qualtrics, was reviewed by the panel, and was refined to essential topic areas. The final survey is included in Appendix B of this report. Appendix C provides the responses of all survey questions with appropriate tables and figures. This chapter provides a brief overview of the survey analysis.

Agencies Surveyed

The study team invited agencies to the survey via email. An initial list of transit agencies was compiled, noting each agency's regional location and relative size or service to create a diverse sample. After consultation with the panel members, the final list (with the inclusion of 75 transit agencies) was developed. The study team acquired 60 survey responses (an 80-percent response rate). Some of the survey responses had too much missing information and were removed from the final survey analysis. A total of 47 complete survey responses (from 46 transit agencies) were used in the final survey data analysis. Appendix A provides a list of participating agencies.

Social Media Applications

Respondents were asked about the major social media platforms they use and their level of engagement. Most of the agencies reported Facebook (83.0 percent), Twitter (83.0 percent), YouTube (63.0 percent), Instagram (63.0 percent), and LinkedIn (53.2 percent) as their most used social media platforms.

Figure 2 shows that agencies in large urban areas allocate more hours to social media activity than the agencies serving smaller urban areas and the agencies serving both rural and urbanized areas. As reported by the survey, 22.2 percent of the agencies in large urban areas dedicate more than 40 hours per week to social media, whereas no agencies serving in small urban areas devote more than 40 hours.
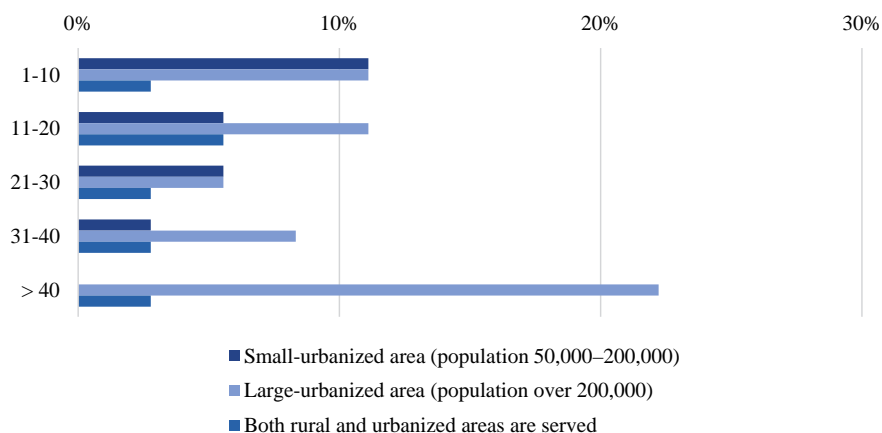
Figure 2.   Agency investment in social media (total hours per week by area size of agency).

Content Management

The agencies included in this survey used social media for a wide range of purposes. Among those purposes, providing service-related information is the most frequent information shared by the transit agencies because nearly all respondents (91.6 percent) provided this answer. In addition, over 85 percent of the survey respondents reported that agency news and projects, emergency alert and crisis information, agency promotion, feature stories, meeting and event notices, and press releases are also frequently shared through their social media platforms.

Agencies tend to match the type of content with the social media platforms they use. For example, 66 percent of the agencies share real-time service alerts though Twitter. For meeting and event notices, feature stories, and agency promotion, Facebook is more preferred by the transit agencies. Both Twitter and Facebook are frequently used by the agencies for service information, emergency alert and crisis information, agency news and projects, press releases, and statements. Most of the agencies prefer sharing service information (24.5 percent) and real-time service information (40.4 percent) several times a day. Meeting and event notices are shared once a day, and emergency alert and crisis information is shared a few times a month by most of the agencies (34.1 percent and 19.2 percent, respectively). The frequency of sharing other information varies from once a week to once a month among different agencies. Marketing and communications staff are responsible for creating and circulating posts on different social media platforms for a majority of agencies. Senior management is also responsible for providing information, especially regarding real-time service information, emergency alerts, crisis information, agency news, projects, and press releases. According to the survey, customer service staff, administrative staff, and information technology (IT) staff also have the responsibility of regulating social media content. Responses for "other" personnel provided by respondents include operation supervisors, operation staff, transit network supervisors, and interns.

Social Media Considerations

The survey respondents were asked to review the importance and effectiveness of social media in achieving a series of commonly stated considerations or goals of the agencies; the average ranking of this goal was 3.8. To help compare these goals, a weighted average was calculated for the importance of each goal using a four-point scale ("not important at all" equals 1, and "very important" equals 4).
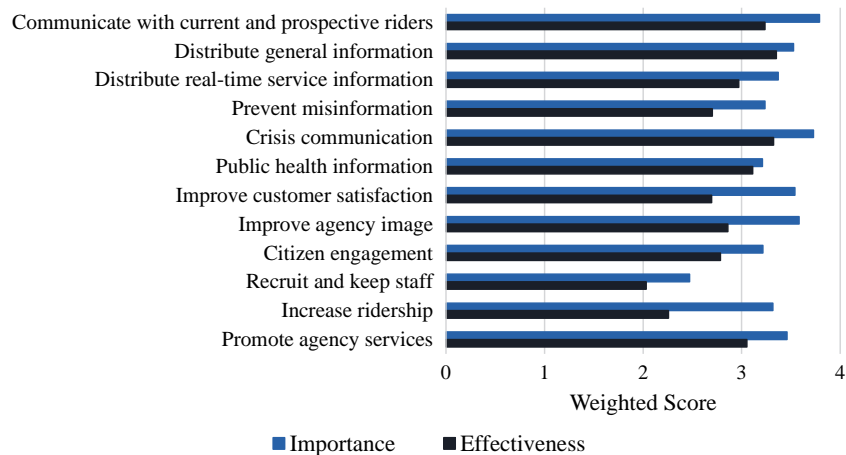
NOTE: The weighted average was calculated from the responses using a four-point scale where not important/effective at all = 1 and very important/effective = 4. N/A and did not respond responses were excluded.

Figure 3.   Comparison of importance of agency goals and effectiveness of social media in achieving goals.

Most of the survey respondents rated "communicate with current and prospective riders" (66 percent) as a "very important" consideration in their agencies' decision to use social media; the average ranking was 3.8. "Crisis communication" was also considered a "very important" goal according to 57.5 percent of the respondents, which had a 3.7 weighted average score. In contrast, 6.4 percent of the agencies deemed social media to be "not important at all" for "recruit and keep staff" (the weighted average was 2.5). One agency representative commented that promoting ridership is a "very important" social media consideration; however, because of the COVID-19 pandemic, the agency has stopped promoting ridership. Survey respondents were also asked to rate the effectiveness of social media in achieving these goals. Respondents rated the effectiveness of social media in meeting their stated goals using a four-point scale, from "not effective at all" to "very effective." The agencies rated social media as "very effective" for "distribut[ing] general information" (the weighted average was 3.4) and "crisis communication" (the weighted average was 3.3). However, survey respondents indicated that these platforms are far less effective in "recruit[ing] and keep[ing] staff" (the weighted average was 2) and "increas[ing] ridership" (the weighted average was 2.3); only 2.1 percent reported these goals being effectively achieved through the social media platforms.

To further assess the effectiveness of social media, a comparison was made between the perceived effectiveness of social media in reaching agency goals and the stated importance of each goal using the weighted averages. Figure 3 compares the importance of a goal and the effectiveness of social media in accomplishing that goal. Communicating with current and prospective riders and crisis communication are the most important goals for agencies. These are also the areas in which social media can be the most effective. However, for other highly rated goals, such as improving customer satisfaction and improving agency image, the gaps between goal and effectiveness are wider.

Effectiveness in Reaching Target Riders

Survey respondents were also asked which social media platforms they use most for reaching different market segments and how effective they are in this pursuit. According to the respondents, Facebook is the most popular platform for reaching all the target segments, including regular riders, occasional riders, students or young adults, seniors, people with disabilities,

Table 9.   Effectiveness of social media in gaining target riders.

Target Market	Not Effective at All (%)	Slightly Effective (%)	Effective (%)	Very Effective (%)	Weighted Average
Regular riders	2.1	8.5	38.3	31.9	3.2
External stakeholders	0.0	19.1	40.4	12.8	2.9
Students/young adults	0.0	23.4	44.7	6.4	2.8
Minorities	2.1	23.4	40.4	10.6	2.8
Occasional riders	2.1	34.0	31.9	12.8	2.7
Low-income communities	0.0	27.7	46.8	2.1	2.7
Agency employees	0.0	27.7	29.8	6.4	2.7
People with disabilities	2.1	31.9	36.2	4.3	2.6
Seniors	6.4	42.6	23.4	2.1	2.3

NOTE: To compare the effectiveness of using social media tools to reach different constituencies, an average ranking was developed. A four-point scale was used, where 1 = not effective at all and 4 = very effective. N/A and did not respond were excluded. Responses are expressed as a percentage of total participating agencies ($N = 47$).

low-income communities, minorities, agency employees, and external stakeholders. Twitter is the second-most-used platform for reaching these target markets. Interestingly, agencies use Facebook (59.6 percent), Twitter (57.4 percent), and Instagram (57.4 percent) almost equally for reaching students and young adults. This demonstrates how important it is for agencies to be resourceful in order to stay compatible with the dynamic social media landscape.

Survey respondents were also asked how effective social media platforms were in gaining target markets. Most of the agencies considered social media to be effective in reaching low-income communities, students and young adults, minorities, external stakeholders, and regular riders. The survey did not define market groups such as everyday riders, young adults, and low-income communities, and agencies may have interpreted them differently when responding. Table 9 shows the weighted average of responses regarding the effectiveness of social media in gaining target riders.

Common Barriers

Survey respondents were asked to rate the commonly identified barriers according to their importance in agencies' decisions to use social media (see Table 10). A weighted average was calculated for the importance of each barrier using a four-point scale ("not important at all"

Table 10.   Importance of barriers in agency decision to use social media.

Barriers	Not Important at All (%)	Slightly Important (%)	Important (%)	Very Important (%)	Weighted Average
Prevent misinformation during crisis management	4.3	14.9	29.8	17.0	2.9
Track interactions and feedback	10.6	10.6	27.7	17.0	2.8
Time constraints for posting	17.0	12.8	21.3	21.3	2.6
Harsh or impolite comments	23.4	23.4	17.0	8.5	2.2
User privacy	25.5	21.3	8.5	8.5	2.0
Lack of smartphone usage	29.8	21.3	6.4	4.3	1.8
Requirement of support from IT staff	38.3	21.3	6.4	2.1	1.6
Agency managers do not see the benefits of social media	34.0	14.9	4.3	4.3	1.6
Staff will waste time updating their personal pages	46.8	8.5	4.3	0.0	1.3

NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$). To better compare these responses, a weighted average was calculated using a four-point scale where 1 = "not important at all" and 4 = "very important." "N/A" and "did not respond" responses were excluded.

equals 1 and "very important" equals 4). Of the agencies, 21.3 percent selected "time constraints for posting" as a "very important" barrier, although the barrier "prevent[ing] misinformation during crisis management" had the highest weighted average. Another barrier noted to be "very important" by most of the agencies is "track[ing] interactions and feedback" (the weighted average was 2.8).

On the other hand, the following factors did not appear to present barriers to agencies, and most agencies rated them "not important at all" in their decision to use social media:

- Requirement of support from IT staff (38.3 percent of agencies and an average rating of 1.6).
- Agency managers do not see the benefits of social media (34.0 percent of agencies and an average rating of 1.6).
- Lack of smartphone usage (29.8 percent of agencies and an average rating of 1.8).
- Harsh or impolite comments (23.4 percent of the agencies and an average rating of 2.2).
- Staff will waste time updating their personal pages (46.8 percent of agencies and an average rating of 1.3).
- User privacy (25.5 percent of agencies and an average rating of 2).

Social Media Policies

Many agencies have legal documents for social media policies and how employees conduct policies. Social media policies provide directions to the employees on how to conduct themselves via the web platforms. These policies address various barriers and concerns of the agencies. Such policies may include guidance regarding employee access to social media sites, the type of accessible sites, account management, acceptable use, the quality and type of social media content, and security guidelines such as password control. Employee conduct policies are acceptable behaviors and social norms that individuals of an agency need to abide by while employed. Most of the participating agencies in this survey have existing policies for employee conduct (42.6 percent), 12.8 percent of agencies have an employee conduct policy in development, and 25.5 percent said they do not have one. On the other hand, considerably fewer agencies indicated having an existing social media strategy policy (21.3 percent), although 27.7 percent of agencies have one in development.

Accessibility for People with Disabilities

Only 29.8 percent of agencies reported that their social media websites are completely accessible for users with disabilities. Another 40.4 percent said that their sites are partially accessible, and 2.1 percent stated that their agencies are in the process of making the sites accessible (see Figure 4).
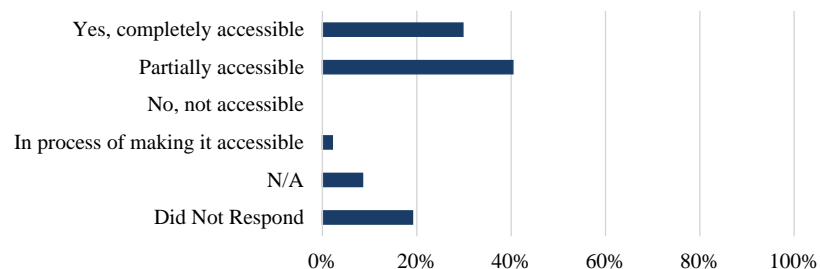
NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 4.   Responses to Q28 (Can people with disabilities access your agency's social media sites?).

Archiving Social Media Content

Among the agencies surveyed, 23.4 percent of the agencies mentioned that they do not archive social media posts; 12.8 percent of the agencies keep records within the platforms directly by preserving the history in relevant sites or feeds. A few agencies use third-party applications such as Archive Social, Sprout Social, Hootsuite, and the like. Some of the agencies that do not usually archive their social media posts mentioned that they make exceptions in cases of abusive or harassing interactions. A few agencies (6.4 percent) assign customer service teams or social media management teams to manage social media records.

Metrics for Measuring Social Media Success

The agencies were also surveyed about their view of social media metrics. According to the survey, important social media metrics are engagement (63.8 percent), followed by awareness (61.7 percent) and customer care success (38.1 percent). Engagement is reflected by the number of likes, comments, shares, and clicks; awareness is reflected by the impressions and reach of the agency's social media platforms; and response rates and time reflect the success of customer care.

Most of the agencies surveyed for this study reported attempting to analyze the effectiveness of their social media success in some manner. Agencies now rely on Facebook Insights (53.2 percent), Twitter Analytics (44.7 percent), Hootsuite (25.5 percent), and Sprout Social (19.2 percent) for analyzing their social media success. Some of the agencies use Google Analytics, Hotjar, Lighthouse, NUVI, and Meltwater. Others measure success based on the frequency of response rate, positive media attention, news outlets, engagement reports, and the number of likes, retweets, and so forth.

COVID-19 Considerations

As reflected in this survey, the COVID-19 pandemic has influenced agency goals, the type of information shared on the social media platforms, and future goals.

Moreover, social media platforms have been playing a powerful role during the COVID-19 pandemic. Therefore, the survey respondents were asked whether they had made any changes regarding information sharing during the COVID-19 pandemic. Among the respondents, 95.7 percent replied that they have increased their social media activity during the pandemic. A survey respondent with SouthWest Transit said, "We have concentrated on making sure our customers are aware that SW Transit is doing everything possible to ensure the safety of all of our customers and drivers. Social media is one avenue of communication that we take advantage of when getting information out to our customers when it comes to COVID-19."

Some agencies (23.4 percent) have focused on displaying on-site safety protocols to reassure their passengers regarding transit safety. Through their social media platforms, they have shared photos and videos of disinfection, rear-door boarding, social distancing, seating capacity limitations, regulations for provincial mask mandates, restrictions for travelers arriving at the airport, and other safety improvements. Moreover, shifting social media activity toward raising awareness of COVID-19 has been a marketing boost for many agencies and helped them promote their public image. A respondent with Mountain Line Transit Authority said, "We update our service levels daily on Twitter/Facebook—we also relay any CDC guidelines related to transportation and being in public. It's become pretty crucial in informing our riders of policy changes. We've even gained some followers in the last year we think because of the output of crucial information."

Lessons Learned

The social media environment is changing dynamically; it is important for agencies to adapt accordingly. Survey respondents were asked about the lessons they learned over time that may be useful to other agencies in this regard. One employee from the Central Midlands Regional Transit Authority (the COMET) advised that boundaries and expectations be set for followers. The agency is also incorporating technologies for creating a system where users will know when they can expect a response and how often the sites are monitored.

The transit industry anticipates the continued expansion of social media. Therefore, dedicated and trained social media personnel are an essential piece of any marketing strategy. There was consensus among the surveyed agencies about increasing communication with their users to achieve their goals. As stated by an employee of the San Francisco Bay Area Rapid Transit (BART) District, hiring a professional social media spokesperson with an adequate knowledge base of public relations is critical for agencies.

Since funding is a constant challenge for transit systems, some of the respondents advised drawing full support from senior management. Many respondents also suggested keeping up with trends (e.g., memes and graphics), using new technologies like Trapeze TransitMaster to provide real-time service alerts, and promoting transparency. One of the barriers that was recognized as "important" by 17.02 percent of the survey respondents was "harsh or impolite comments." This issue was addressed by several respondents, and all of them suggested avoiding negativity and heated arguments.

Future Needs

Survey respondents were asked what their social media goals are for the next 1 to 3 years. Some of the agencies reported increasing followers and engaging with the community through social media as their primary goal. Others emphasized incorporating advanced technical support into their social media platforms, adding staff and resources, making their content more accessible to minority communities, and focusing on post–COVID-19 strategies. Examples include the following:

- Start a real-time communication method more focused on riders, possibly through text.
- Make it a place to receive real-time updates.
- Reach more minority communities. Find ways to reach and influence nonriders. Make content more accessible.
- Add staff to actively manage the distribution of service information and to bring customer service representatives to handle complaints directly on social media.
- Improve staffing behind the scenes to support real-time service alerts on Twitter and mobile apps.
- Hire someone specifically for social media strategizing.
- Use tools to rebuild trust/ridership following the COVID-19 pandemic through active community engagement and transparency.
- Grow as a community leader and supporter of social equity throughout the region.

Some of the survey respondents have also shared valuable suggestions for improving social media interactions in the future. Some suggestions are as follows:

- Set a goal or benchmark of responding within a reasonable amount of time. Have other staff help in monitoring after hours and on weekends on a rotating basis.
- Speak with riders like humans rather than corporations.
- Have different strategies for each platform to tap into what works for each one.

- Set up a Twitter account dedicated to service advisories. That way, people do not have to scroll through multiple service alerts that are not relevant to them to get to announcements, news, and engaging content. The agency can always retweet or quote-tweet a service alert when it is an important one.
- Hire a social media coordinator who can devote all of his or her time to strategy.
- Post user-generated content such as photos of transit vehicles taken and shared by the public with their permission. This is a great way to generate content, and often the quality of the submitted content is good. Also, it is a great way to engage with social media followers.
- Communicate with customers about upcoming service changes or program information and increase community outreach to engage and inform marginalized populations (e.g., people of color, people with disabilities, and seniors).
- Expand social media platforms to reach a broader audience.

Key Findings

This chapter provides a brief discussion of the survey results. The survey questionnaire targeted several key aspects of social media usage from the viewpoint of transit professionals. The general finding is that social media is a handy tool for enabling transit agencies to reach their customer base. Informative and real-time information sharing requires a dedicated workforce, which is not available for smaller agencies. Transit agencies used social media during the COVID-19 pandemic to inform people about health protocols and vaccine distribution. The Lessons Learned section provides a brief overview of the agencies' experiences while handling social media, while the Future Needs section provides needs for future investigation on this issue.

CHAPTER 4

Case Examples

Introduction

After the survey was complete, seven agencies were selected as case examples that provided survey responses on unique or effective practices. The primary selection was based on the agency size, geographic locations, and use of social media. The final selection was chosen after consulting with the panel members. Out of seven case examples, three case examples (BART, Capital Metro, and CyRide) consisted of guided interviews with agency staff to gather further details from the survey responses. Table 11 lists the agencies based on key focus areas and specific interests. Details of the case examples are described following the table. Appendix D provides the social media metrics of the case example agencies.

Case Example 1: San Francisco Bay Area Rapid Transit

BART is a heavy-rail public transit system that connects the San Francisco Peninsula with communities in the East Bay and South Bay. The system currently provides service to five counties in the large, urbanized area of the greater San Francisco–Oakland, CA, metropolitan area. Pre-COVID, BART carried 405,000 trips on an average weekday and as of July 2021 is now carrying 80,000 trips on weekdays. BART's principal mode of transportation is heavy rail or subway. Figure 5 shows the BART website.

Social Media Platforms

The chief communication officer of BART reported that it uses the following social media platforms: Facebook, Twitter, YouTube, Instagram, Reddit, LinkedIn, and TikTok. The agency shares real-time service information, agency news, project updates, press release contents, and official statements via Twitter. Instructional videos on how to use BART's services are shared on the BART YouTube channel. Other posts related to emergency alerts and crisis information, agency promotion, and feature stories are frequently shared through BART's social media platforms. BART uses its Twitter account to conduct polls, live Twitter Town Halls, and Ask Me Anything–style question-and-answer sessions. BART also provides customer service responses and creates cases and service tickets from tweets for later action by its staff. BART holds a Twitter Town Hall at least once a year, conducts Twitter polls a few times a year, and provides customer service responses and follow-up tweets as needed.

Agency Considerations

In the survey, the BART respondent mentioned that communications with current and prospective riders, distribution of general information, crisis communication, improvement of

Table 11.   Agencies based on focus area and specific interest.

Focus Area	Agencies
Timely updates and crisis information	BART, MDT, Halifax Transit
Public education and awareness	CyRide
Public engagement	The COMET, MDT, BART
Transit promotion	The COMET
Support and influence organizational goals	TANK
Employee conduct policy	TANK, MDT, Capital Metro, BART, Halifax Transit
Social media policy	MDT, BART, Halifax Transit
Archiving social media data	MDT
Time allocation for social media posts and interactions	MDT, Capital Metro, the COMET
Specific Interest	
Short story dispenser	BART
Disabled person mobility	TANK, Capital Metro, CyRide
Food delivery for nonprofit organizations	The COMET
Free transportation to COVID-19 vaccination site	TANK, CyRide

customer satisfaction and agency image, and citizen engagement were the agency's most important goals. BART has undertaken some insightful projects to connect with riders and improve customer satisfaction. Since riders have a tradition of reading on the trains and while waiting on the platform, BART has installed touchless short story dispensers, which print out free short stories at the stations to encourage reading (see Figure 6). The respondent also indicated that BART's social media platforms were "very effective" in achieving most of the agency's goals. The agency respondent also indicated that BART is reaching regular riders with the help of its social media platforms.

As reflected by the number of likes, comments, shares, and clicks, social media engagement is an important social media metric for BART. Another important metric is awareness, which

Source: BART (https://www.bart.gov).
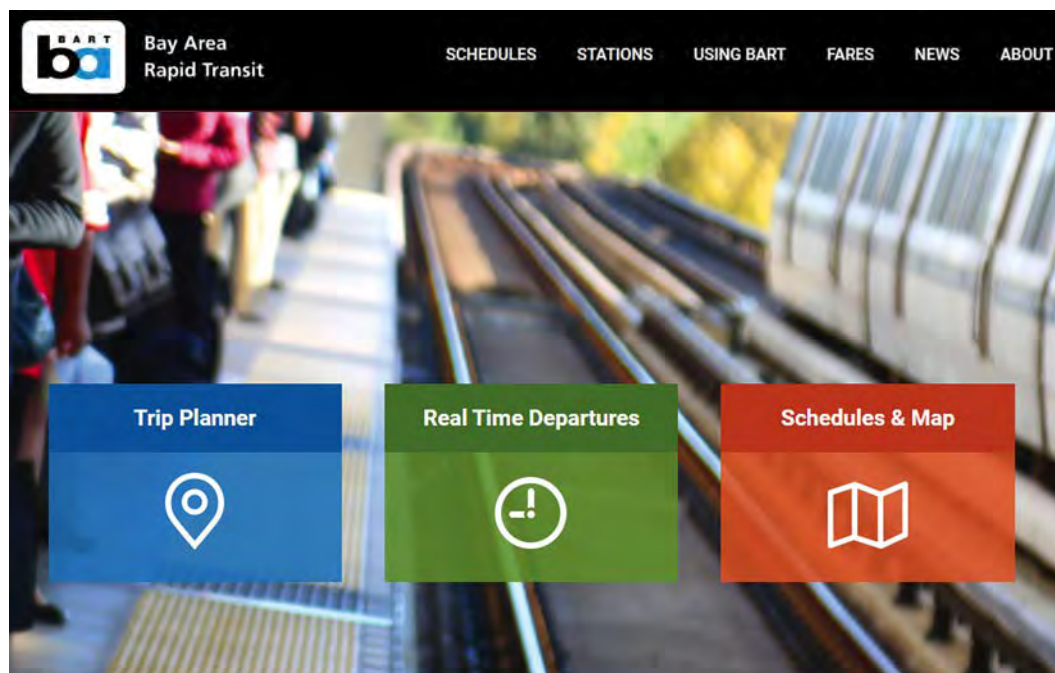
Figure 5.   Interface of BART website.

Source: BART Facebook post (https://www.facebook.com/bartsf/posts/10157634137561916).

Figure 6. BART's Facebook post about its touchless short story dispenser service.

is reflected by the impressions and reach of the agency's social media platforms. Furthermore, response rates and time reflect the success of customer care. BART uses Twitter Analytics and Facebook Insights to measure its social media success, in addition to the frequency at which media outlets pick up BART's social media content.

Partnerships and Policies

BART's social media platforms are connected with real-time service alerts to streamline distribution and are governed by marketing and communication plans, policies, and procedures. A social customer care program has been set up using cloud-based tools. BART does not share third-party private company information or promotions via social media platforms. The agency has written strategies, policies, and guidelines for official communication on social media that apply to employees who maintain social media communications on behalf of BART.

COVID-19 Considerations

BART frequently shares daily ridership numbers and train-crowding details on social media.

Challenges and Barriers

BART recognizes the full potential of social media. The agency has full buy-in to prioritize its social media platforms and be bold about it, according to the survey respondent. However, the BART social media sites are only partially accessible to people with disabilities. Furthermore, the agency does not use a social media archiving platform. According to the policy statement from the agency, BART personnel take a screenshot and save it in a folder in the cloud for limited use cases when the agency decides to delete or hide a comment or post.

Lessons Learned

The following are the lessons learned:

- **Trained social media spokesperson:** One of the most important lessons learned by the agency is to treat social media managers like spokespeople. BART also suggests hiring strong writers with a public relations background.
- **Social media tactics:** Another important suggestion from the respondent was to thread Twitter content instead of posting one sentence with a link to more information. Having

different strategies for each platform was also suggested. BART employees also suggested setting up a Twitter account dedicated to service advisories so that people do not have to scroll through many service alerts that are not relevant to them to access announcements, news, and other engaging content. Moreover, one can always retweet or quote-tweet a service alert when it is important.

- **Transparency:** BART respondents emphasized keeping conversations with the public transparent unless it is via direct messages (DMs). BART does not prefer to use a DM unless the information contains sensitive information.

Future Goals

The social media goal of the agency for the next 1 to 3 years is to keep up with new trends, such as making more service-related posts, answering relevant queries in public posts, and answering relevant direct messages.

Web Links

The following are BART's web links:

- Website: www.bart.gov.
- Twitter: https://twitter.com/SFBART.
- Facebook: https://www.facebook.com/bartsf.
- LinkedIn: https://www.linkedin.com/company/bart.
- YouTube: https://www.youtube.com/user/BARTable.
- Instagram: https://www.instagram.com/sfbayarearapidtransit.
- Reddit: https://www.reddit.com/r/Bart.

Case Example 2: Miami-Dade Transit

Miami-Dade Transit (MDT), operated by Miami-Dade County's Department of Transportation and Public Works (DTPW), is the primary public transit authority in Miami, FL. MDT is the largest transit system in Florida and the 15th-largest transit system in the United States. The agency serves a large urbanized area with a population of over 2.8 million residents. MDT's principal modes of transportation are bus, light rail, heavy rail, and paratransit services.

Social Media Platforms

The senior social media specialist from DTPW reported that the department uses the following social media platforms: Facebook, Twitter (Figure 7), and Instagram. The agency shares service-related information, agency news, projects, promotions, emergency alert and crisis information, press releases and statements, feature stories, and job listings through these platforms. Additionally, DTPW posts other content used to engage its riders and attract new potential riders. Among these, service information is shared the most frequently (a few times a week). The department focuses its social media posts on four distinct pillars: education, community, institutional, and promotional. DTPW posts can fall neatly into one of the aforementioned pillars, which help to guide the posting strategy for the department. Like many other transportation agencies, DTPW has two distinct Twitter accounts: one that is used to share solely service information and updates and another that is used to share promotional information, such as bus operator recruitment or press release announcements.

Source: MDT Twitter post
(https://twitter.com/IRideMDT/status/1371097134351716352).

Figure 7.   Miami-Dade Transit responding to customer comment via Twitter.

The marketing team within the department handles all social media posting and responses via Facebook, Twitter, and Instagram. DTPW has allocated approximately $2,000 to $5,000 per fiscal year to promote various messages via its social media platforms. Posts that are often sponsored are intended to help raise awareness to transit riders or the general Miami-Dade County community, as well as promote certain announcements or job openings. The number of people reviewing the social media content before posting varies depending on the situation and the post. Generally, the senior social media specialist or the social media specialist are able to post or respond without further review from the marketing staff. However, a situation often involves a sensitive topic that requires a conversation with higher-level staff members in the marketing team, such as the communications manager or the chief of marketing and communications. Examples of this include when a local elected official is tagged in a tweet or is tweeting about something related to transit. DTPW employs two full-time team members that both often work over 40 hours a week dedicated to social media. Various other positions within the marketing team are involved in the review and creation process of social media content; however, these team members are involved in this process far less than 40 hours a week, and social media is not their primary responsibility.

Agency Considerations

The agency considers communication with current and prospective riders to be "very important" and finds social media to be a "very effective" tool in that pursuit. Figure 7 shows an example of the agency handling a passenger's query via Twitter.

Social Media Metrics

Important social media metrics for MDT are social media engagement, awareness, the number of followers, and the success of customer care for the agency. DTPW uses Twitter Analytics, Facebook Insights, and DMs to measure its social media success. DTPW also considers timeliness in response and response rate as important metrics of success.

Partnerships and Policies

MDT's social media platforms do not connect to real-time rider alert notifications. Passengers can sign up for rider alert messages to be notified of service disruptions directly to their devices. Since the system does not connect with the social media platforms, the social media team publishes the alerts and service information manually on Twitter. Service alerts are posted mainly on the department's service-related Twitter account.

COVID-19 Considerations

At the height of the pandemic, the department was posting three to four COVID-19–related posts per week pertaining to service adjustments, cleaning, or new procedures. The goal was to assure riders that riding public transit was safe. As local case numbers decreased and vaccination efforts in Miami-Dade County increased, the department reduced COVID-19–related posts to bimonthly.

Challenges and Barriers

One of the largest challenges for the department when it comes to social media is staffing. With only two full-time social media employees, it is difficult to ensure constant service information is posted and to find time to creatively plan and strategize posts not pertaining to a service disruption. The team often finds they spend a great deal more time responding to riders and posting service information than they do gathering content or planning for future posts.

Future Goals

The social media goals of the agency for the next 1 to 3 years are to increase its following, increase and improve response time, and improve overall department perception.

Web Links

The following are MDT's web links:

- Website: https://www.miamidade.gov/global/transportation/home.page.
- Twitter: https://twitter.com/IRideMDT.
- Facebook: https://www.facebook.com/GoMiamiDade/.
- Instagram: https://www.instagram.com/gomiamidade/.

Case Example 3: CyRide

CyRide is the city bus system for Ames, IA. It is a collaboration between the City of Ames, Iowa State University (ISU), and ISU's student government. CyRide operates 13 fixed routes, a dial-a-ride service for persons with a disability, and a late-night service called Moonlight Express. In 2020, CyRide provided an average annual ridership of 4,577,482. The agency serves a small urbanized area with a population of 50,000–200,000. The principal mode of transportation of the agency is bus.

Social Media Platforms

The transit technology coordinator reported that CyRide uses the following social media platforms: Facebook, Twitter, YouTube, and Instagram. The administrative staff of the agency share service-related information, agency news, projects, promotions, emergency alerts, and crisis information a few times a month.

Agency Consideration

The respondent believes social media platforms are important and effective in achieving agency goals, especially in imparting public health information and services during the COVID-19 pandemic (see Figure 8). CyRide measures its social media success by the number of likes, retweets, and so forth.

Partnerships and Policies

CyRide's social media platforms are connected to real-time service alerts and service advisories. The agency does not share third-party private company information or promotions via social media platforms. The agency does not have a social media strategy policy.

Source: CyRide Twitter post
(https://twitter.com/CyRide/status/1392949050694160392).

Figure 8.   CyRide offered free rides to ensure access to the COVID-19 vaccine events.

COVID-19 Considerations

During the COVID-19 pandemic, the agency has posted extensive additional information about disinfection, rear-door boarding, social distancing, and mask wearing. Moreover, the agency offered free rides to passengers for ensuring access to COVID-19 vaccine events (Figure 8). CyRide also continued normal posts during this time, but efforts were predominantly focused on updating passengers about new policies as they came into effect.

Challenges and Barriers

The only "very important" barrier faced by the agency was time constraints for posting.

Future Goals

The social media goals of the agency for the next 1 to 3 years are to increase the frequency of posting, develop a general social media policy for the agency, and expand the usage of social media for marketing purposes.

Web Links

The following are CyRide's web links:

- Website: https://www.cyride.com.
- Twitter: https://twitter.com/cyride.
- Facebook: https://www.facebook.com/cyride.
- LinkedIn: https://www.linkedin.com/company/cyride.
- Instagram: https://www.instagram.com/cyridetransit.

Case Example 4: Transit Authority of Northern Kentucky

Transit Authority of Northern Kentucky (TANK) has been providing transit services to Boone, Campbell, and Kenton Counties, OH, as well as downtown Cincinnati, OH, since 1973. The system currently provides service to the small urbanized area with a population of 50,000–200,000. TANK's principal mode of transportation is bus. In 2020, TANK provided an average annual ridership of 2,482,528.

Social Media Overview

The marketing manager of TANK reported that it uses the following social media platforms: Facebook, Twitter, YouTube, Instagram, and LinkedIn. TANK shares general service information, emergency alerts and crisis information, agency news and projects, press releases and statements, agency promotion, feature stories, and job listings through these platforms. TANK also provides local community partnerships, events, and drivers' information via these platforms. The agency engages senior management, marketing staff, administrative staff, and customer service staff to review the social media content, generally for about 5 to 7 hours a week. The official TANK website and other social media platforms are completely accessible by people with disabilities.

Agency Considerations

TANK finds social media platforms to be important and effective in achieving the agency goals listed in the survey questionnaire. The agency also finds the social media platforms effective in reaching its target market, including regular riders, occasional riders, students, young adults, seniors, people with disabilities, low-income communities, minorities, agency employees, and external shareholders (see Figure 9).

Social Media Metrics

Important social media metrics for the agency are engagement, awareness, and customer care. TANK measures the effectiveness of social media success via Facebook Insights. For other platforms, interactions, shares, and likes are considered as the social media metrics.

Source: TANK Twitter post (https://twitter.com/TriStateTrails/status/1394631594065936386).

Figure 9.   TANK promoting one of its events via Twitter.

Partnerships and Policies

TANK's social media platforms are connected to its marketing and communication plans. The agency shares third-party private company information or promotions via social media platforms. There is a social media strategy policy currently in development at the agency.

COVID-19 Considerations

During the COVID-19 pandemic, the agency has been posting more, trying to be more transparent, and getting information out more quickly. TANK also used this time to reassess its social media plans and made changes to focus on new marketing efforts post-COVID-19. TANK also provided free individual rides to make it easier for people to get the COVID-19 vaccine.

Challenges and Barriers

The important social media challenges for the agency are preventing misinformation during crises, tracking interactions and feedback, and dealing with harsh or impolite comments.

Future Goals

The social media goals of the agency for the next 1 to 3 years are to build a larger social media audience, make TANK's social media platforms places to receive real-time updates, and focus on pushing marketing efforts.

Web Links

The following are TANK's web links:

- Website: https://www.tankbus.org.
- Twitter: https://twitter.com/tankbus.
- Facebook: https://www.facebook.com/tankbus.
- LinkedIn: https://www.linkedin.com/company/tankbus.
- YouTube: https://www.youtube.com/user/TANKTransit.
- Instagram: https://www.instagram.com/tankbus.

Case Example 5: Central Midlands Regional Transit Authority

The COMET is a service of the Central Midlands Regional Transit Authority. The agency provides countywide public transit services throughout both rural and urbanized areas of Richland, Lexington County, and downtown Columbia, SC. In 2020, the COMET provided an average annual ridership of 2.4 million. The COMET's principal modes of transportation are bus, streetcar, trolleys, vanpool, and paratransit services.

Social Media Overview

The director of marketing and the community affairs/public information officer reported that the agency uses the following social media platforms: Facebook, Twitter, YouTube, Instagram, and LinkedIn. The COMET provides general service information, emergency alert and crisis information, agency news and projects, press releases and statements, agency promotion, feature stories, and job listings through these platforms. Recordings of board meetings, the COMET

public forums, and the COMET Academy classes are uploaded to the YouTube channel. The agency engages senior management, marketing staff, interns, and other employees to manage the agency's social media content.

Agency Considerations

In the survey, the respondent from the COMET mentioned that communications with current and prospective riders, distribution of general and real-time service information, prevention of misinformation, crisis communication, improvement of customer satisfaction and agency image, citizen engagement, and promotion of agency services were the agency's most important goals. The respondent considered social media platforms to have been effective in achieving most of these goals. The agency effectively reaches its target market of regular riders, occasional riders, and minorities through social media.

Social Media Metrics

Important social media metrics for the agency are likes, comments, shares, and clicks for engagement and impressions and reach for awareness. The COMET measures its social media success with Hootsuite, Facebook Insights, and DMs.

Partnerships and Policies

The COMET's social media platforms are connected to its marketing and communication plans, real-time service alerts, and service advisories. The agency has joined forces with Uber and Lyft to provide rides to and from vaccine appointments in Richland and Lexington Counties. In February 2021, the authority launched the "Don't Miss Your Shot" campaign, which is expected to run through the end of 2021 (see Figure 10). Besides promoting through radio, television, billboards, and flyers, the authority is also using its social media and a dedicated

Source: The COMET (http://catchthecometsc.gov/whats-new/the-comet-launches-dont-miss-your-shot-campaign-today).

Figure 10.   The COMET teamed up with Uber and Lyft to ensure access to vaccination sites for riders in Columbia, South Carolina.

web page (www.COMETCovidHelp.org) for imparting detailed information on how to use the COMET's services. The agency is also offering additional programs to serve the elderly and/or persons with disabilities needing transportation to vaccination sites.

Challenges and Barriers

The agency respondent did not consider any of the challenges or barriers listed in the survey to be important. However, the respondent highlighted that people are generally vocal on social media, especially Facebook. Additionally, the agency's social media platforms are only partially accessible to people with disabilities. The agency stated that it is committed to providing equal access and opportunity to individuals with disabilities in all its programs, activities, and services. The agency recognized the importance of reasonable modifications to policies and procedures that would benefit individuals with disabilities.

Lessons Learned

As a result of restraints in budget and staffing, it is not feasible to be constantly active on social media. Therefore, the representative of the COMET has suggested setting boundaries and expectations for followers. The agency is creating a system to let users know when they can expect a response and how often the sites are monitored. The agency respondent suggested setting a benchmark for responding within a reasonable amount of time and having other staff help in monitoring after hours and on weekends on a rotating basis.

Future Goals

The social media goal of the agency for the next 1 to 3 years is to increase followers annually by 10 percent to 15 percent.

Web Links

The following are the COMET's web links:

- Twitter: https://twitter.com/CatchTheCOMET.
- Facebook: https://www.facebook.com/CatchTheCOMET.
- LinkedIn: https://www.linkedin.com/company/central-midlands-regional-transit-authority-thecomet/.
- YouTube: https://www.youtube.com/channel/UCyfHi9VvJHhrwKcZWN73S7w.
- Instagram: https://www.instagram.com/catchthecomet.

Case Example 6: Capital Metropolitan Transportation Authority

The Capital Metropolitan Transportation Authority (Capital Metro) is a public transportation provider located in Austin, TX. The agency is also referred to as CapMetro. The principal modes of transportation of the agency are bus, light rail, heavy rail/subway, and paratransit services. Capital Metro provides services in the large urbanized area of Austin and several suburbs in Travis and Williamson Counties, TX, to a population of over 200,000.

Social Media Overview

The multimedia producer of Capital Metro reported that the agency uses the following social media platforms: Facebook, Twitter, YouTube, Instagram, and LinkedIn. Capital Metro also

runs an official website that is completely accessible to people with disabilities. The senior management and marketing staff of the agency manage the social media content regarding general service information, emergency alerts, crisis information, agency news, projects, press releases, statements, agency promotion, feature stories, and job listings. Capital Metro also provides an instructional video on how to use its services on its platforms (see Figure 11). Multiple people review the social media content before posting. The employees usually dedicate 40 hours per week to managing its social media. The budget allocated for social media engagement varies per project.

Agency Consideration

Capital Metro considers social media platforms to be important and effective in achieving the agency goals that were listed in the survey questionnaire. Social media platforms have also proved to be most effective in reaching the target market.
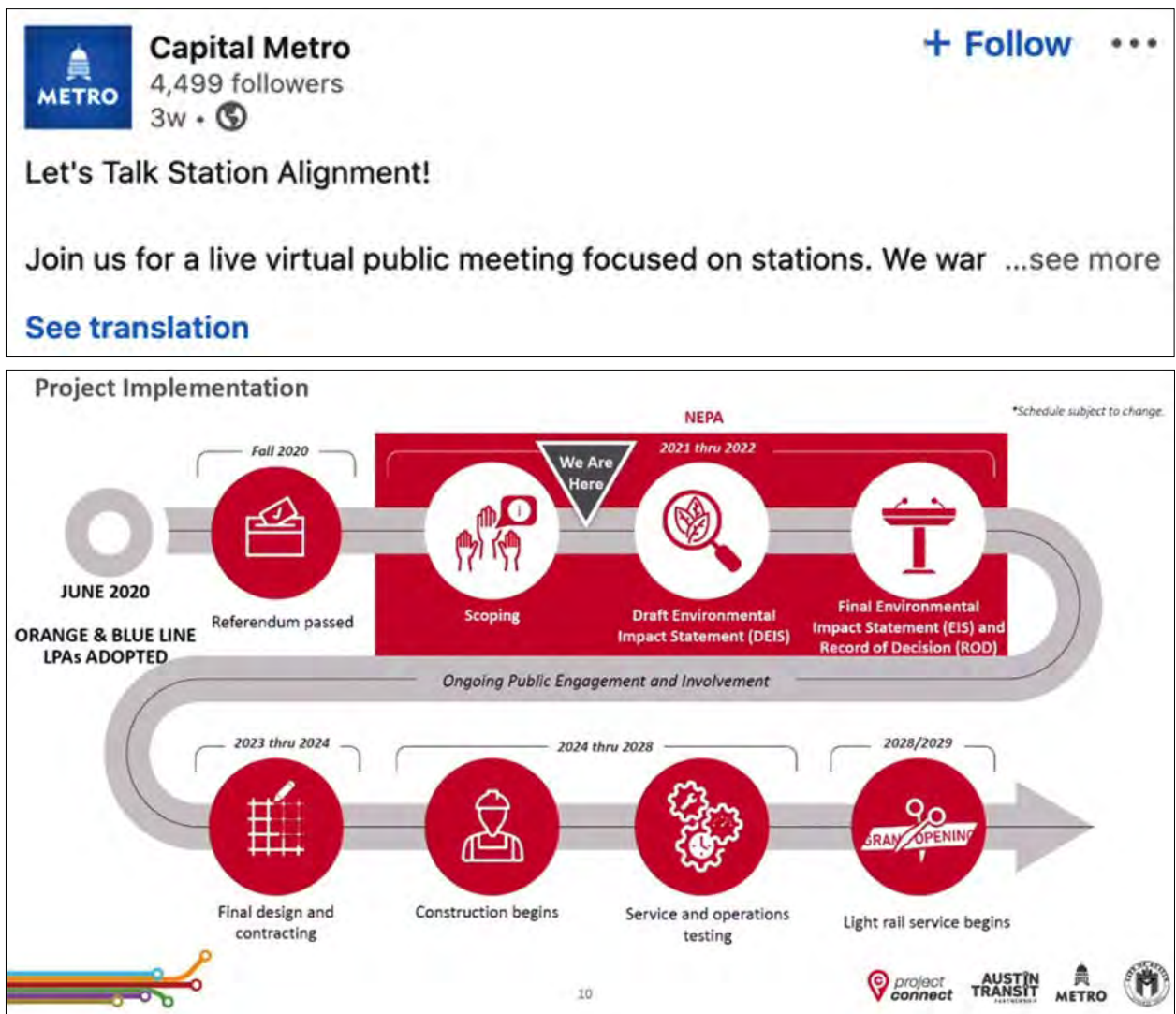
Source: Capital Metro LinkedIn post (https://www.linkedin.com/posts/capital-metro_metrorapid-projectconnect-activity-6793533775767851008-i4rB).

Figure 11.   *Capital Metro providing instructional video regarding its services.*

Social Media Metrics

An important social media metric for the agency is awareness among followers. Its social media success is measured by Twitter Analytics, Hootsuite, Facebook Insights, DMs, and third-party data metrics.

Partnerships and Policies

Capital Metro's social media platforms are connected to its marketing and communications plans, 511 (traveler information), 311 (citizen information), real-time service alerts, and service advisories. The agency does not share third-party private company information or promotions via social media platforms. The agency has an employee conduct policy on social media, and a social media strategy policy is currently under development.

COVID-19 Considerations

During the COVID-19 pandemic, the social media information sharing of the agency has shifted mainly toward "transit is safe" initiatives and the promotion of the cleanliness of its vehicles and facilities, community support, and so forth.

Challenges and Barriers

The agency handles its challenges and barriers with relative efficiency. The marketing team collaborates with the customer service team in handling difficult situations within social media comments, messages, and posts.

Future Goals

The social media goals of the agency for the next 1 to 3 years are to restructure information flow among the channels. The agency also plans to hire professionals specifically for social media strategy. Revamping or cleansing the agency's YouTube channel is also one of its future goals.

Web Links

The following are Capital Metro's web links:

- Website: https://capmetro.org.
- Twitter: https://twitter.com/CapMetroATX.
- Facebook: https://www.facebook.com/capitalmetro.
- Instagram: https://www.instagram.com/capmetroatx.
- LinkedIn: https://www.linkedin.com/company/capital-metro.
- YouTube: https://www.youtube.com/user/iridecapmetro.
- Blog: https://capmetroblog.com.

Case Example 7: Halifax Transit

Halifax Transit is a Canadian public transportation agency. The agency's principal modes of transportation are bus, paratransit services, and ferries (see the web interface in Figure 12). The service operates in Halifax, Nova Scotia, with a population of over 200,000. The agency
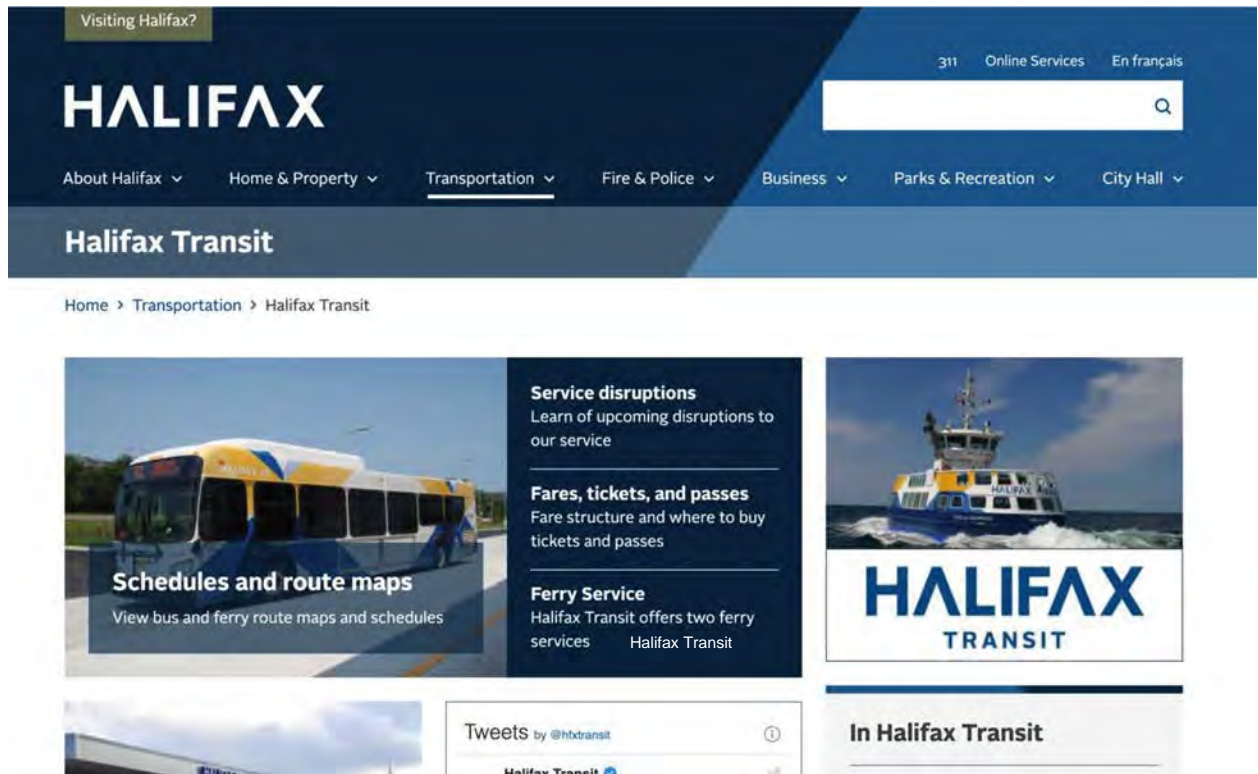
Source: Halifax Transit (https://www.halifax.ca/transportation/halifax-transit).

Figure 12.   Interface of Halifax Transit website.

currently runs two ferry routes, 61 conventional bus routes (including corridor, local, and express services), three regional express routes (called MetroX), and three rural routes. Halifax Transit also operates Access-A-Bus, a door-to-door paratransit service for senior and disabled citizens. In 2020, Halifax transit provided 30.4 million average boardings annually.

Social Media Overview

The outreach advisor of the agency reported that Halifax Transit provides general service information, emergency alerts, crisis information, agency news, press releases and statements, meeting and event notices, and job listings through Twitter. However, most of the Halifax Transit content is also shared via municipal Facebook and Instagram accounts. The agency also shares historical facts, COVID-19 safety information, passenger policies, guideline reminders, facts about the fleet, ridership numbers, and updates on capital projects through the agency's major social media platforms. Halifax Transit also shares events typically related to community engagement opportunities roughly once a month. Because of the topography of the Halifax region, the agency has created Snow Plan routes, which include alternate routing for conventional bus routes to navigate around hills and other tricky areas. During winter storm events, the agency posts tweets, along with a link to the Snow Plan alternative routing on its website. Halifax Transit employs a full-time employee to manage its social media account. The agency also has dedicated operations staff and transit network supervisors who share service disruptions during non-office hours. Planning and scheduling staff work cooperatively with customer support and engagement staff to advise on service changes. Project staff work cooperatively with customer support and engagement staff to offer advice on transit projects. All their content is guided by corporate communications processes.

Agency Considerations

According to the respondent, only a small portion of the population under the agency's service areas uses Twitter, which is the agency's main channel of communication. The respondent also indicated that Twitter is only "slightly effective" in reaching the target market of the agency. Therefore, Halifax Transit is planning to increase its social media reach by expanding to other platforms with the hope of engaging a larger audience. During the COVID-19 pandemic, a large part of the social media communication of Halifax Transit was safety measures.

Social Media Metrics

Important social media metrics for the agency are likes, comments, shares, clicks for engagement, impressions and reach for awareness, and the number of followers. Social media success is measured by Twitter Analytics, Hootsuite, and DMs.

Partnerships and Policies

Halifax Transit's social media platforms are connected with its marketing and communication plans, 311 (citizen information), real-time service alerts, and data (real-time GPS) to third-party applications, Google Transit, and Transit app. The agency does not share third-party private company information or promotions via social media platforms. The agency has an existing employee conduct policy on social media and a social media strategy policy.

COVID-19 Considerations

During the COVID-19 pandemic, the agency has directed a greater focus on sharing specific COVID-19 safety measures, such as ensuring a provincial mask mandate (see Figure 13), blocking off seating areas, boarding and exiting from rear doors, limiting the seating capacity, and restricting travelers arriving at the airport. At the beginning of the pandemic, the service

Returning to Halifax Transit - Buses Return to Regular Schedule Aug 31

Source: Halifax Transit YouTube video (https://youtu.be/qKADZTZDsdg).

Figure 13. COVID-19 safety information regarding Halifax Transit and terminals provided through YouTube channel of Halifax Regional Municipality.

was reduced by roughly 30 percent and was communicated broadly via social media. Municipal social media channels also shared this information on Halifax Transit's behalf.

Challenges and Barriers

Time constraints for posting, user privacy, and tracking interactions and feedback are important challenges faced by the agency. Another barrier is that the agency's social media sites are only partially accessible to people with disabilities.

Lessons Learned

The following are lessons learned:

- **Application of technology:** One of the important lessons learned by the agency is to use technology (Trapeze TransitMaster) to provide real-time service alerts via Twitter.
- **Increase outreach:** The other important suggestions from the spokesperson include communicating more actively with customers about upcoming service changes or program information, increasing community outreach to engage and inform marginalized populations (e.g., people of color, people with disabilities, and seniors), and expanding social media platforms to reach a broader audience.

Future Goals

The social media goals of the agency for the next 1 to 3 years are to grow its following, increase customer engagement, expand social media reach to other platforms, and increase customer service information about its programs.

Web Links

The following are Halifax Transit's web links:

- Website: https://www.halifax.ca/transportation/halifax-transit.
- Twitter: https://twitter.com/hfxtransit.
- YouTube: https://www.youtube.com/channel/UCM8Iyqh9P_EjTvqeMgGKBQw.

Key Findings

The case examples show that Twitter and Facebook are the critical social media platforms for the agencies to share information and provide customer support. Occasionally, Twitter is preferred because of its short text or alert format. Service alerts are the key type of information that is shared frequently by the agencies. Figure 14 shows topics and keywords in word cloud format, which is generated from all tweets of the seven case examples. The size of the text in Figure 14 indicates the quantity of the keyword presence. Text colors are used for making a distinction between the words. It was found that COVID-19 significantly impacted the nature of information distribution. Being more innovative out of necessity, agencies started using social media more frequently and efficiently not only to impart service-related information but also to raise public awareness about various health and safety issues during COVID-19. Some agencies promote specific interests such as short story dispensers, free COVID-19 vaccine rides, and disabled rider assistance. Agencies such as BART suggested that the top-tier staff should be engaged in social media posting to maintain the quality and consistency of content sharing. Data archiving seems difficult even for the agencies selected for case examples.

Figure 14. Key topics from 118,297 official tweets by the case example agencies.

CHAPTER 5

Conclusions

This report is a combination of a literature review of social media in public transportation, a survey of selected transit agencies, and detailed case examples in the United States and Canada. This synthesis contributed to knowledge by exploring the social media strategies adopted by transit agencies and identified important practices for the agencies based on existing literature, newly collected survey data, and case examples conducted. The study also shed light on the barriers and challenges faced by the transit agencies while maintaining social media platforms. The study showed the perceived benefits of strategic resource allocation, applying various social media tools to improve public outreach and engagement, and branding and connecting with other organizations to improve public image.

The literature review in Chapter 2 reveals interesting findings guided by sentiment analysis on rider satisfaction, transparency, user habits, and demographics. The results of the literature review highlight the importance of analyzing the influence of social media on the transportation business, measuring the effectiveness of existing strategies, collecting data to tailor a campaign that obtains the interest of diverse riders, and communicating transparently with the current and prospective riders through social media. The review demonstrates the need to link the transportation sector with other sectors to identify key issues of concern and rectify them. The review also provides a discussion of the tools for providing information and collecting feedback from riders, as well as an understanding of the primary challenges and benefits of such initiatives. Finally, there is a review of studies that have surveyed transit agencies and presented the culture in practice, policy requirements, and overall suggestions.

Chapter 3 includes final results and discussion on 47 complete survey responses from transit agencies known to use one or more social media platforms. The survey explored relevant queries regarding the type of social media platforms used by the agencies, the kind of content shared by them, the frequency of posting, resources allocated for managing these platforms, the importance and effectiveness of social media in achieving agency goals, target riders, employee conduct policy, social media policy, challenges, barriers, and accessibility. Seven case examples were developed based on the survey results.

Case example findings discussed in Chapter 4 give further details about social media use, agency considerations, policies, prime stakeholders, notable practices, challenges, barriers, lessons learned, and future goals.

This chapter summarizes information from across the survey and case examples with respect to major findings, barriers and challenges, and important practices in social media networking of the transit agencies. The chapter concludes with a summary of identified gaps in knowledge and further study needs in the topic area.

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Key Findings

To ensure the optimum use of social media for improving riders' experience, agencies follow certain rules about what, when, and how with respect to sharing information. These agencies follow certain processes of marketing, management, planning, tools, resources, outreach, agreements, and coordination. Some of the common elements and other informative key findings are as follows:

- A majority of the agencies rely on Twitter and Facebook accounts for connecting with their followers and current and prospective riders. Most of the surveyed agencies use Facebook to reach their diverse audiences, and the agencies consider these platforms to be effective in reaching those target audiences.
- Nearly all of these agencies assign marketing staff to manage social media content. Plausibly, coordinating social media with marketing and communications plans, a strategy adopted by 63.0 percent of the respondent agencies, is considered the best practice.
- A large proportion of the information shared by the agencies is service-related information. In fact, real-time service information is the most frequently shared information via social media (several times a day). Some agencies have found it useful to engage in occasional interactive sessions, be it online surveys, polls, or Twitter Town Halls.
- Urban agencies allocate more resources for managing social media than rural agencies do.
- A high percentage of the surveyed agencies believe social media is important for increasing ridership, improving customer satisfaction, and improving agency image. However, there is a large gap between these expectations and reality because the actual effectiveness of social platforms in achieving these goals is comparatively low, according to the survey. Therefore, it is critical for the agencies to emphasize the social media demographics for targeting audiences. For example, the survey results suggest that most of the agencies use Facebook to reach their audiences. The popularity of Facebook among different age groups varies widely. This explains the gap and demands a timely update on how agencies use social media.

Challenges and Barriers

Several challenges to improving user satisfaction and serving the best interest of the audiences or followers were raised through the survey responses and case examples. Key challenges cited by survey respondents include preventing misinformation during crisis management, tracking interactions and feedback, and dealing with time constraints for posting. Some of the key barriers and challenges are as follows:

- The literature review shows that real-time information sharing is one of the principal reasons for which transit agencies use social media, and the main challenge was the lack of sufficient means to provide the necessary information. With the advent of technologies and the availability of smartphones, another alarming challenge has emerged: the rapid spread of misinformation through social media. Most of the surveyed agencies see this as a major challenge.
- The literature review has echoed this concern, and industry analysts predicted that social media would become subject to archiving and disclosure rules. Agencies responding to this study's survey reported that it is rather difficult for them to track interactions and feedback. Only one-third (36 percent) of the surveyed agencies use third-party services like Archive Social, Sprout Social, Hootsuite, and so forth, for archiving social media interactions. A few agencies (4.3 percent) only archive abusive content, and another 12 percent keep histories of interactions within the platforms. Almost 23 percent of the agencies do not have any procedure for archiving social media interactions, and about 30 percent did not respond to

this question. Most of the agencies also stated that the lack of resources, funding, and staff might contribute to this barrier.

- Many agencies expressed concerns regarding time constraints for posting. When the social media feed is not delivered in real time, it impacts the relevance and timeliness of the information posted. Audiences naturally lose interest when there is much delay in reciprocating their comments, feedback, complaints, and queries.
- Several of the survey respondents viewed online criticism as a "very important barrier." However, a few respondents said that when agency employees themselves post negative comments, it may have serious repercussions and can harm the brand image of the agency.

Lessons Learned

The participating agencies in the case examples provided a number of lessons learned for ensuring better service through social media. Some good practices and lessons include the following:

- Create a designated social media manager and spokesperson to make it easier for the agencies to communicate social media engagements and promote effectiveness in achieving company goals. It is important to hire trained personnel with a strong public relations background and good writing skills. Having a designated position also encourages responsibility for sharing effective information.
- Focus on time management and respond promptly to serve the audience. It is also important for the image of the agency. For example, the COMET emphasizes setting a goal or benchmark of responding within a reasonable amount of time, having other staff help in monitoring after hours and on weekends on a rotating basis.
- Communicate proactively about the upcoming services, making social media sites accessible to marginalized populations (e.g., people with disabilities), and expand the agency's outreach to broader audiences.
- Focus on comments and complaints to take necessary steps to resolve any issue for building trust and relationships with riders. Many agencies insisted on transparency in this regard.
- Apply advanced tools to provide real-time service alerts, set up dedicated service advisories, and integrate livestream and video options into social media handles to improve user experience. For example, Halifax Transit uses Trapeze TransitMaster for providing real-time service alerts via Twitter.
- Use social media for a variety of purposes, such as analyzing mobility patterns, detecting traffic incidents, and determining public opinion. The idea of using these platforms to share content specific to their best functions would be useful to put into practice.

Further Needs

Effective social media usage is critical for any transit agency. According to the literature review, having a social media policy is important for the agencies. In this study's survey, only 21.3 percent of the agencies had an existing social media policy. Previously, most of the agencies would consider the basic engagements such as a number of likes, comments, shares, clicks, response rate, response time, and reach as important parameters to measure the effectiveness of their social media activities. The scenario has changed now, and many agencies rely on Facebook Insights, Twitter Analytics, Hootsuite, and Sprout for analyzing social media metrics. Also, there are some available open-source tools such as Twint (https://github.com/twintproject/twint), which can be used to extract historical tweets. For example, the study team used this tool to collect all historical tweets (until June 2, 2021) of the seven case example transit agencies (more

details on the metrics can be found in Appendix D). Usage of these open-source platforms can be helpful in extracting real-time social media metrics. Additional study can possibly provide better performance indicator tools for estimating costs and benefits. More study is also needed to fight against misinformation in social media. Furthermore, additional study is needed to address how to engage with marginalized communities or people with disabilities.

For transit agencies, limited funding and resources continue to be a challenge. The case examples and survey results support the need for sufficient funding and staff. The literature review identifies several plans and suggestions to cope with this issue. These suggestions could be added to and implemented by transit agencies and regional authorities searching for solutions to limited funding and resources. Additionally, research is needed to address how the transit agencies can engage with marginalized people and people with disabilities via social media.

Glossary of Terms

This glossary provides a list of social media terms that are used in the report. The definitions of the words are brief, and users can explore appropriate literature to get a full understanding of some of the technical terms.

Application: computer software that operates a specific function on a computer and handheld devices such as smartphones; also known as an app.

Archive Social: a cloud-based analytics technology that enables its clients to keep records of their social media history.

Blog: an online journal that is updated on a regular basis. Blogs are typically the interactive platforms for discussion or informational content published on the World Wide Web. Blog posts are usually displayed in reverse chronological order. Blog is short for "web log."

Facebook: a social networking website that allows its users to sign up for personal profiles; connect with other users; and exchange messages, pictures, music, videos, and other articles. Facebook creates a network of various e-commerce companies, brands, organizations, and government agencies, making them accessible for followers and constituents.

Flickr: a website owned by Yahoo!; an online community that allows users to publish and share photographs.

Foursquare: an independent location-data-based mobile platform that enables users to connect with other users in their contacts, Facebook, and Twitter accounts. The Foursquare smartphone application enables users to check in to locations or text message. Users can also collect points and virtual badges and become the mayor by visiting new places or certain locations frequently.

Hootsuite: a social media management platform that supports social network integrations for Twitter, Facebook, Instagram, LinkedIn, and YouTube.

Instagram: a social network service for sharing photos and videos only. The Instagram application has features likes photo editing, filters, hashtags, and geographical tagging.

Medium: an electronic publishing platform used for blogging and social journalism.

Metadata: the set of data that provide information about other data. For example, in case of media items, such as a blog post or a photograph, the metadata refers to the titles, descriptions, tags, keywords, and captions.

Microblog: an online broadcasting medium where users can exchange small elements of content only. For example, Twitter allows 280 characters per post.

Natural Language Processing: an umbrella term for technologies that are used to understand, categorize, classify, and create computationally viable models and algorithms to work with human languages in their natural form.

Pinterest: a social media platform for sharing images, videos, and GIFs, designed to enable content saving within the site and discover creative ideas on the Internet.

Platform: a framework or system for content management that operates software and presents virtual content.

Podcast: a digital audio file available on the Internet for downloading to a personal device for playback, usually streamed via podcasting applications to the subscribers of individual artists, companies, radio networks, TV networks, and so forth; a portmanteau of iPod and broadcast.

Quora: a question-and-answer website where users can ask questions and provide answers factually or in the form of opinions. Users can also edit, upvote, or downvote the answers.

Really Simple Syndication (RSS): a standardized, computer-readable format for delivering web-based content directly to users without them having to visit websites. People use an RSS reader or news aggregator for subscribing to their favorite web feeds or updates.

Reddit: an online forum used for social news aggregation, content rating, and discussion. Registered subscribers can submit content to the site, which is upvoted or downvoted by other subscribers.

Retweet: a repost of a tweet on the Twitter website or the process of reposting a tweet on Twitter.

Sentiment analysis: the process of determining the sentiment of the text using different natural language processing algorithms. Sentiment analysis first trains the model using a known data set with known emotional scores and then tries to find the similarities of those data with unknown test data and thus statistically rank the unknown data.

Social media: online interactive technologies that allow people to create, publish, and exchange content, including text, audio, video, or multimedia via virtual communities.

Social network: a virtual community connected through a medium of dedicated websites or applications that allows users to create individual profiles, join with friends, communicate with others, and share content. Examples of social media networks include Facebook, Twitter, LinkedIn, and Instagram.

Sprout Social: a social media management and optimization platform that provides a single hub for social media publishing, analytics, and engagement across all social profiles of their client brands and agencies.

Telegram: an instant messaging software based on freeware, cross platform, and cloud computing. The distinctive feature of Telegram is security. Telegram offers end-to-end encryption and allows users to set self-destruct timers on shared contents.

Text mining: the process of extracting unknown information by analyzing the text using structured algorithms.

TikTok: a social networking service used to create and share a variety of short-form videos encompassing genres of dance, comedy, and education.

Topic model: the technique of extracting the topic from a collection of text documents using various natural language processing algorithms. Using the underlying semantic structures, topic modeling algorithms try to determine the key content from a large text document.

Tumblr: a social networking website based on the idea of microblogging. Tumblr also allows users to post multimedia and other contents to a short-form blog.

Tweet: a post on the Twitter website or the process of writing a post on Twitter.

Twitch: a video livestreaming service focused on streaming live video games and e-sports competitions. Twitch has music broadcast and creative content sharing features too.

Twitter: a microblogging network that allows users to write posts or tweets of no more than 280 characters.

Vimeo: an online platform for hosting and sharing high-definition video across different devices. Vimeo also allows subscribers to use tools for video creation, editing, and other professional services.

WeChat: a Chinese multipurpose messaging platform and mobile payment app. WeChat has features like hold-to-talk voice messaging, broadcast messaging, video conferencing, video games, and location sharing.

Wiki: a collaborative website aimed at crowdsourcing the process of content creation and modification for a given cause or event using a web browser.

Yelp: an online business directory that allows users to find, connect, and review businesses.

YouTube: a video-hosting social media website where users can upload and watch videos.

Zoho Social: a social media management platform that helps business companies and agencies schedule posts, create custom dashboards, monitor mentions, and so forth.

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Abbreviations and Acronyms

BART	Bay Area Rapid Transit
Capital Metro (CapMetro)	Capital Metropolitan Transportation Authority
CDC	Centers for Disease Control and Prevention
COMET	Central Midlands Regional Transit Authority
DM	direct message
DTPW	Department of Transportation and Public Works
GTFS	General Transit Feed Specification
ICT	information and communications technology
ISU	Iowa State University
IT	information technology
LDA	latent Dirichlet allocation
MDT	Miami-Dade Transit
MOBANA	MOBility ANAlyzer
MTA	Metropolitan Transportation Authority
SW Transit	SouthWest Transit
RSS	Really Simple Syndication
TANK	Transit Authority of Northern Kentucky
TCRP	Transit Cooperative Research Program
TriMet	Tri-County Metropolitan Transportation District of Oregon
TTI	Texas A&M Transportation Institute

Participating Agencies

Table 12.   Participating transit agencies.

ID	Agency	Region	State	Area Size	Principal Mode
1	Birmingham–Jefferson County Transit Authority	Birmingham	AL	Small urbanized area (population 50,000–200,000)	Bus, paratransit services
2	Valley Metro	Phoenix	AZ	Large urbanized area (population over 200,000)	Bus, light rail, streetcars and trolleys, vanpool, paratransit services
3	San Joaquin Regional Transit District	Stockton	CA	Both rural and urbanized areas are served	Bus, paratransit services
4	Bay Area Rapid Transit District	San Francisco	CA	Large urbanized area (population over 200,000)	Heavy rail/subway
5	San Diego Metropolitan Transit System	San Diego	CA	Both rural and urbanized areas are served	Bus, light rail, paratransit services
6	Long Beach Transit	Long Beach	CA	Large urbanized area (population over 200,000)	Bus
7	Los Angeles County Metropolitan Transportation	Los Angeles	CA	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/subway
8	Los Angeles Department of Transportation—Transit	Los Angeles	CA	Large urbanized area (population over 200,000)	Bus, paratransit services
9	Gold Coast Transit District	El Rio	CA	Large urbanized area (population over 200,000)	Bus, paratransit services
10	San Francisco Municipal Transportation Agency	San Francisco	CA	Large urbanized area (population over 200,000)	Bus, light rail, streetcars and trolleys, cable cars, paratransit services

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ID	Agency	Region	State	Area Size	Principal Mode
11	Washington Metropolitan Area Transit Authority	Washington	D.C.	Large-urbanized area (population over 200,000)	Bus, heavy rail/subway, paratransit services
12	Miami-Dade Transit	Miami	FL	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/ subway, paratransit services
13	Tampa Bay Area Regional Transit Authority	Tampa	FL	Large urbanized area (population over 200,000)	Vanpool
14	Jacksonville Transportation Authority	Jacksonville	FL	Large urbanized area (population over 200,000)	Bus, monorails and tramways, paratransit services
15	Metropolitan Atlanta Rapid Transit Authority	Atlanta	GA	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/ subway
16	Chatham Area Transit	Savannah	GA	Small urbanized area (population 50,000–200,000)	Bus, paratransit services
17	CyRide	Ames	IA	Small urbanized area (population 50,000–200,000)	Bus
18	Greater Peoria Mass Transit District	Peoria	IL	Both rural and urbanized areas are served	Bus, paratransit services
19	Hancock Area Rural Transit	Hancock County	IN	Small urbanized area (population 50,000–200,000)	Vanpool
20	Janus Developmental Services	Noblesville	IN	Large urbanized area (population over 200,000)	Paratransit services
21	Transit Authority of Northern Kentucky	Northern Kentucky	KY	Small urbanized area (population 50,000–200,000)	Bus
22	Saginaw Transit Authority Regional Services	Saginaw	MI	Small urbanized area (population 50,000–200,000)	Bus, paratransit services
23	Blue Water Area Transportation Commission	Port Huron	MI	Small urbanized area (population 50,000–200,000)	Bus
24	SouthWest Transit	Eden Prairie	MN	Small urbanized area (population 50,000–200,000)	Bus

ID	Agency	Region	State	Area Size	Principal Mode
25	Metro Transit–Minnesota	Minneapolis–Saint Paul area	MN	Large urbanized area (population over 200,000)	Bus, light rail, vanpool, paratransit services
26	Kansas City Area Transportation Authority	Kansas City	MO	Large urbanized area (population over 200,000)	Bus
27	Charlotte Area Transit System	Charlotte	NC	Large urbanized area (population over 200,000)	Bus, light rail, streetcars and trolleys, vanpool, paratransit services
28	Manchester Transit Authority	Manchester	NH	Small urbanized area (population 50,000–200,000)	Bus, paratransit services
29	North Central Regional Transit District	North Central New Mexico	NM	Both rural and urbanized areas are served	Bus, paratransit services
30	Regional Transportation Commission of Southern Nevada	Southern Nevada	NV	Large urbanized area (population over 200,000)	Bus, paratransit services
31	Greater Cleveland Regional Transit Authority	Cleveland	OH	Both rural and urbanized areas are served	Bus, light rail, heavy rail/subway, paratransit services
32	Southwest Ohio Regional Transit Authority/Metro	Southwest Ohio	OH	Large urbanized area (population over 200,000)	Bus, paratransit services
33	METRO Regional Transit Authority	Summit County	OH	Large urbanized area (population over 200,000)	Bus, paratransit services
34	Tri-County Metropolitan Transportation District of Oregon (TriMet)	Portland	OR	Large urbanized area (population over 200,000)	Bus, light rail, commuter rail, paratransit services
35	Salem Area Mass Transit District (Cherriots)	Salem	OR	Large urbanized area (population over 200,000)	Bus, vanpool, paratransit services
36	Rhode Island Public Transit Authority	Rhode Island	RI	Both rural and urbanized areas are served	Bus, streetcars and trolleys, vanpool, paratransit services

ID	Agency	Region	State	Area Size	Principal Mode
37	Central Midlands Regional Transit Authority	Columbia	SC	Both rural and urbanized areas are served	Bus, streetcars and trolleys, vanpool, paratransit services
38	Lowcountry Regional Transportation Authority	Lowcountry Region	SC	Small urbanized area (population 50,000–200,000)	Bus, streetcars and trolleys, paratransit services
39	Capital Metropolitan Transportation Authority	Austin	TX	Large urbanized area (population over 200,000)	Bus, light rail, heavy rail/ subway, paratransit services
40	Metropolitan Transit Authority of Harris County	Harris County	TX	Large urbanized area (population over 200,000)	Bus, light rail, vanpool, paratransit services
41	Greater Richmond Transit Company	Richmond	VA	Large urbanized area (population over 200,000)	Bus, paratransit services
42	Blacksburg Transit	Blacksburg	VA	Small urbanized area (population 50,000–200,000)	Bus
43	Green Mountain Transit	Burlington	VT	Both rural and urbanized areas are served	Bus
44	Community Transit	Snohomish County	WA	Large urbanized area (population over 200,000)	Bus, vanpool, paratransit services
45	Mountain Line Transit Authority	Morgantown	WV	Small urbanized area (population 50,000–200,000)	Bus
46	Halifax Transit	Nova Scotia	Canada	Large urbanized area (population over 200,000)	Bus, paratransit services

APPENDIX B

Survey Questionnaire

Introduction

The Texas A&M Transportation Institute (TTI) is leading research on the use of social media in public transportation for the Transit Cooperative Research Program (TCRP). The current research project, **TCRP Synthesis J-07/Topic SB-33: Uses of Social Media in Public Transportation**, will document transit systems' current social media use and provide an overview of transit agencies' social media use for the following:

1) Timely updates and crisis information
2) Public education and awareness
3) Public engagement
4) Transit promotion
5) Support and influence organizational goals

This survey is the first step in the research project, and it needs to be completed by **March 9, 2021**. This survey will take approximately **10–15 minutes** to complete, and it will allow you to save your work and return to finish at a later time. This survey will ask questions about your transit agency's usage, including but not limited to the following:

- Reasons for adopting social media platforms
- Barriers and concerns
- Advice and lessons learned

The answers you provide will be synthesized with the information collected from other public transit professionals. Your answers will remain confidential to the extent allowed or required by law. We greatly appreciate your participation in this study. If you have questions or concerns regarding this study, you may contact the principal investigator, **Subasish Das,** at s-das@tti.tamu.edu. The survey is only open to individuals 18 years and older. Your answers may need to be clarified, or further information may be collected by TTI.

1. Do you agree to participate in this survey?
    a. Yes
    b. No → THANK AND TERMINATE

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Agency Information

1. Participant information

      a.   First Name:
      b.   Last Name:
      c.   Title:
      d.   Agency Name:
      e.   Address Line 1:
      f.   Address Line 2 (Optional):
      g.   City:
      h.   State/Province:
      i.   Postal Code:
      j.   Country:
      k.   Phone Number:
      l.   Email Address:
      m.   Website:

2. Describe the service area size of your agency.

      a. Large urbanized area (population over 200,000)
      b. Small urbanized area (population 50,000–200,000)
      c. Rural or non-urbanized area (population under 50,000)
      d. Both rural and urbanized areas are served

3. What is the principal mode your agency focuses on? Please check all that apply.

      a. Bus
      b. Light rail
      c. Heavy rail/subway
      d. Monorails and tramways
      e. Streetcars and trolleys
      f. Cable cars
      g. Commuter rail
      h. Vanpool
      i. Paratransit services
      j. Other (specify):

4. How many riders did your agency handle in the most recent years?

Name	Estimated Annual Riders			
	2017	2018	2019	2020
Agency ridership	____	____	____	____

Social Media Platforms

5. What social media platforms does your agency use? Please check all that apply.
     a. Facebook
     b. Twitter
     c. YouTube
     d. Instagram
     e. Tumblr
     f. Reddit
     g. Medium
     h. Flickr
     i. LinkedIn
     j. Viber
     k. Pinterest
     l. Quora
     m. Twitch
     n. Other (specify):

6. Indicate the type of information your agency provides via the following major social media platforms. Please check all that apply.

Type of Information	Facebook	Twitter	YouTube	Instagram	Other	N/A
Service information	O	O	O	O	O	O
Real-time service information	O	O	O	O	O	O
Emergency alert and crisis information	O	O	O	O	O	O
Agency news and projects	O	O	O	O	O	O
Other news	O	O	O	O	O	O
Press releases and statements	O	O	O	O	O	O
Agency promotion	O	O	O	O	O	O
Feature stories	O	O	O	O	O	O
Meeting and event notices	O	O	O	O	O	O
Job listings	O	O	O	O	O	O
Other (specify below)	O	O	O	O	O	O

NOTE: N/A = not applicable.

List any other types of content provided via the major social media platforms listed above.

Enter text in box.

7. How frequently does your agency update the following?

Type of Information	Several Times a Day	Once a Day	A Few Times a Week	Once a Week	A Few Times a Month	Once a Month	N/A
Service information	O	O	O	O	O	O	O
Real-time service information	O	O	O	O	O	O	O
Emergency alert and crisis information	O	O	O	O	O	O	O
Agency news and projects	O	O	O	O	O	O	O
Other news	O	O	O	O	O	O	O
Press releases and statements	O	O	O	O	O	O	O
Agency promotion	O	O	O	O	O	O	O
Feature stories	O	O	O	O	O	O	O
Meeting and event notices	O	O	O	O	O	O	O
Other (specify below)	O	O	O	O	O	O	O

List any other types of content and identify the frequency of updates.

Enter text in box.

8. How many people are instrumental in reviewing social media content before posting?
    a. No one
    b. One person
    c. Multiple persons
    d. N/A
    e. Other (specify)

9. Who is responsible for creating and circulating the posts on different social media platforms? Please check all that apply.

Type of Information	Senior Manage-ment	Marketing Staff	Information Technology Staff	Admin-istrative Staff	Customer Service Staff	Others (specify)
Service information	○	○	○	○	○	___
Real-time service information	○	○	○	○	○	___
Emergency alert and crisis information	○	○	○	○	○	___
Agency news and projects	○	○	○	○	○	___
Other news	○	○	○	○	○	___
Press releases and statements	○	○	○	○	○	___
Agency promotion	○	○	○	○	○	___
Feature stories	○	○	○	○	○	___
Meeting and event notices	○	○	○	○	○	___
Job listings	○	○	○	○	○	___
Other (specify below)	○	○	○	○	○	___

NOTE: The dashes in the "Others (specify)" column indicate that the respondents did not provide any further information for these categories.

10. How many man hours does your agency dedicate toward managing social media?

Enter text in box.

11. What is the budget allocated for social media engagement?

Enter text in box.

Agency Considerations

12. How important is each of the following considerations in your agency's decision to use social media?

Considerations	Not Important at All	Slightly Important	Important	Very Important	N/A
Communicate with current and prospective riders	O	O	O	O	O
Distribute general information	O	O	O	O	O
Distribute real-time service information	O	O	O	O	O
Prevent misinformation	O	O	O	O	O
Crisis communication	O	O	O	O	O
Public health information	O	O	O	O	O
Improve customer satisfaction	O	O	O	O	O
Improve agency image	O	O	O	O	O
Citizen engagement	O	O	O	O	O
Recruit and keep staff	O	O	O	O	O
Increase ridership	O	O	O	O	O
Promote agency services	O	O	O	O	O
Other (specify below)	O	O	O	O	O

Indicate any other agency considerations for social media use and their level of importance.

Enter text in box.

13. How effective have your agency's social media activities been in achieving the following goals?

Considerations	Not Effective at All	Slightly Effective	Effective	Very Effective	N/A
Communicate with current and prospective riders	O	O	O	O	O
Distribute general information	O	O	O	O	O
Distribute real-time service information	O	O	O	O	O
Prevent misinformation	O	O	O	O	O
Crisis communication	O	O	O	O	O
Public health information	O	O	O	O	O
Improve customer satisfaction	O	O	O	O	O
Improve agency image	O	O	O	O	O
Citizen engagement	O	O	O	O	O
Recruit and keep staff	O	O	O	O	O
Increase ridership	O	O	O	O	O
Promote agency services	O	O	O	O	O
Other (specify below)	O	O	O	O	O

How effective has social media been in meeting other objectives?

Enter text in box.

14. Which social media metrics are important to your agency? Please check all that apply.
   a. Engagement: Likes, comments, shares, and clicks
   b. Awareness: Impressions and reach
   c. Customer care: Response rate and time
   d. No evaluation
   e. Other (specify)

15. How does your agency measure the effectiveness of your social media success? Please check all that apply.
    a. Twitter Analytics
    b. Hootsuite
    c. Facebook Insights
    d. Direct messages
    e. Sprout Social
    f. Zoho Social
    g. N/A
    h. Other (specify):

16. Which social media platforms does your agency use to reach specific audiences? Please check all that apply.

Users	Facebook	Twitter	YouTube	Instagram	Other	N/A
Regular riders	O	O	O	O	O	O
Occasional riders	O	O	O	O	O	O
Students/young adults	O	O	O	O	O	O
Seniors	O	O	O	O	O	O
People with disabilities	O	O	O	O	O	O
Low-income communities	O	O	O	O	O	O
Minorities	O	O	O	O	O	O
Agency employees	O	O	O	O	O	O
External stakeholders	O	O	O	O	O	O

17. Is your agency effective in reaching specific audiences with the help of social media platforms?

Users	Not Effective at All	Slightly Effective	Effective	Very Effective	N/A
Regular riders	O	O	O	O	O
Occasional riders	O	O	O	O	O
Students/young adults	O	O	O	O	O
Seniors	O	O	O	O	O
People with disabilities	O	O	O	O	O
Low-income communities	O	O	O	O	O
Minorities	O	O	O	O	O
Agency employees	O	O	O	O	O
External stakeholders	O	O	O	O	O

18. Do your agency's social media posts tie in with other activities and/or information distribution platforms, such as real-time alerts or service advisories? Please check all that apply.
   a. Marketing and communications plan
   b. 511 (traveler information)
   c. 311 (citizen information)
   d. 211 (human services information)
   e. Real-time service alerts
   f. Service advisories
   g. Other (specify):

19. Does your agency share third-party private company information or promotions via social media platforms?
   a. Yes
   b. No
   c. N/A

20. [IF Q19=YES] If yes, how often?
   a. Regularly (every day)
   b. Often (once or twice in a week)
   c. Very often (once or twice in a month)
   d. Other (specify):

21. Is there an employee conduct policy (in social media) at your agency?
    a. Yes
    b. No
    c. In development
    d. N/A

22. [IF Q21=YES] If possible, please upload the employee conduct policy document your agency follows.

23. Is there a social media strategy policy at your agency?
    a. Yes
    b. No
    c. In development
    d. N/A

24. [IF Q23=YES] If possible, please upload the social media strategy policy document your agency follows.

25. Please describe the changes made (by your agency) in social media information sharing due to the ongoing COVID-19 pandemic.

Enter text in box.

Challenges and Barriers

26. Below are some commonly identified barriers to using social media. Indicate the importance of each component in your agency's decision to use social media.

Barriers	Not Important at All	Slightly Important	Important	Once a Week	Very Important	N/A
Requirement of support from IT staff	O	O	O	O	O	O
Time constraints for posting	O	O	O	O	O	O
Agency managers do not see the benefits of social media	O	O	O	O	O	O
Lack of smartphone usage	O	O	O	O	O	O
Harsh or impolite comments	O	O	O	O	O	O
Staff will waste time updating their personal pages	O	O	O	O	O	O
User privacy	O	O	O	O	O	O
Prevent misinformation during crisis management	O	O	O	O	O	O
Track interactions and feedback	O	O	O	O	O	O

27. If there are any other specific barriers and challenges, please describe below.

Enter text in box.

28. Can people with disabilities access your agency's social media sites?
    a. Yes, completely accessible
    b. Partially accessible
    c. No, not accessible
    d. In process of making it accessible
    e. N/A

29. Does your agency actively handle direct messages or mentions from social media users?
    a. Yes
    b. No
    c. N/A

30. How does your agency archive social media interactions?

> Enter text in box.

Lessons Learned and Future Needs

31. What are your social media goals over the next 1–3 years?

> Enter text in box.

32. Please describe any lessons learned by your agency that could be useful to other transit agencies.

> Enter text in box.

33. Please describe any suggestions on improving social media interactions in the future.

> Enter text in box.

34. Do you know of any peer transit agencies that may be interested in this survey?
    a. Yes
    b. No → THANK AND TERMINATE

35. Please provide contact information for the peer transit agency that may be interested in this survey.
    a. Agency name:
    b. Contact person name:
    c. Contact email:

36. [FOR TERMINATIONS] Thank you for participating in this survey. Please advance so your information will be recorded.

37. [FOR SURVEY COMPLETES] Thank you for completing our survey! Your input is greatly appreciated. We will happily provide you with a link to the synthesis report when it is published. We hope that information provided in this report will be useful to your agency in operating current transit agency resources and in planning of adopting new methods. If we need more information or clarification, we may need to contact you in the future. Please feel free to contact the principal investigator at s-das@tti.tamu.edu with any questions in the meantime.

APPENDIX C

Survey Results

Agency Information

Q2. Describe the service area size of your agency.
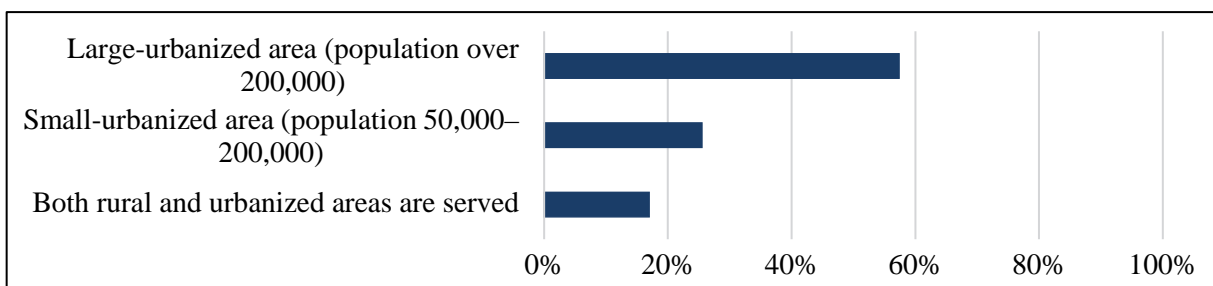
Figure 15.   Responses to Q2 (Describe the service area size of your agency; the population estimate for "Both rural and urbanized areas are served" is less than 50,000).

Q3. What is the principal mode your agency focuses on? Please check all that apply.
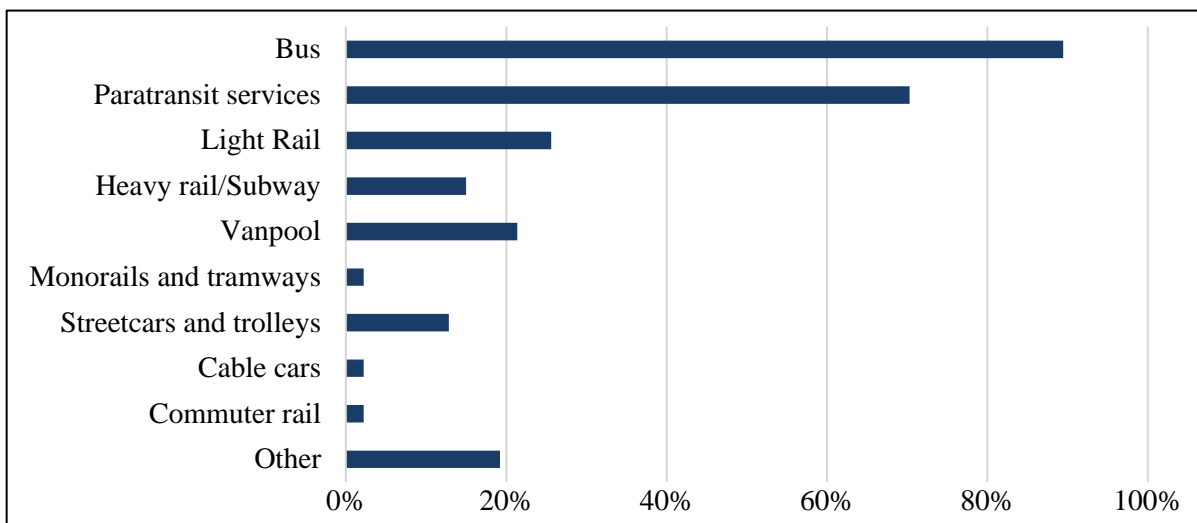
NOTE: Multiple responses were allowed. Responses are expressed as a percentage of total participating agencies (*N* = 47). Other modes include express bus service and local shuttle; rideshare service; vanpool: a regional transportation service for transportation disadvantaged as a result of age, income, or disability; ferries; ferry system; river ferry; and micro-mobility.

Figure 16.   Responses to Q3 (What is the principal mode your agency focuses on?).

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Q4. How many riders did your agency handle in the most recent years?

Table 13. Annual ridership of the agencies.

Participant Information—Agency Name	How many riders did your agency handle in the most recent years? Agency Ridership—2017	How many riders did your agency handle in the most recent years? Agency Ridership—2018	How many riders did your agency handle in the most recent years? Agency Ridership—2019	How many riders did your agency handle in the most recent years? Agency Ridership—2020
Saginaw Transit Authority Regional Services	Did not respond	Did not respond	594,217	Did not respond
SouthWest Transit	1,148,811	1,124,405	1,105,936	249,678
Transit Authority of Northern Kentucky	3,400,000	3,176,219	3,080,845	2,482,528
Greater Cleveland Regional Transit Authority	Did not respond	Did not respond	44,000,000	32,000,000
Central Midlands Regional Transit Authority	Did not respond	2,700,000	Did not respond	2,400,000
Community Transit	10,400,000	10,900,000	11,000,000	Did not respond
Rhode Island Public Transit Authority	16,601,191	16,699,490	16,413,606	13,343,941
Southwest Ohio Regional Transit Authority/Metro	15,000,000	14,000,000	14,500,000	7,000,000
Lowcountry Regional Transportation Authority	Did not respond	Did not respond	Did not respond	Did not respond
Greater Peoria Mass Transit District	2,711,720	2,685,742	2,581,344	2,227,154
TriMet	98,986,457	97,067,672	96,650,044	78,504,513
Metropolitan Atlanta Rapid Transit Authority	Did not respond	Did not respond	Did not respond	Did not respond
Kansas City Area Transportation Authority	Did not respond	Did not respond	Did not respond	Did not respond
Hancock Area Rural Transit	Did not respond	Did not respond	Did not respond	Did not respond
Miami-Dade Transit	Did not respond	Did not respond	Did not respond	Did not respond

| Participant Information—Agency Name	How many riders did your agency handle in the most recent years? Agency Ridership—2017	How many riders did your agency handle in the most recent years? Agency Ridership—2018	How many riders did your agency handle in the most recent years? Agency Ridership—2019	How many riders did your agency handle in the most recent years? Agency Ridership—2020
METRO Regional Transit Authority	5,151,011	5,142,955	4,960,026	3,241,025
Salem Area Mass Transit District (Cherriots)	3,274,852	3,195,261	3,257,275	3,196,774
Greater Richmond Transit Company	7,945,342	7,384,212	8,586,386	8,397,838
Mountain Line Transit Authority	984,969	990,230	875,856	433,877
Blue Water Area Transportation Commission	1,332,242	1,315,832	1,204,505	444,929
San Joaquin Regional Transit District	3,500,000	3,700,000	3,700,000	2,900,000
Capital Metropolitan Transportation Authority	Did not respond	Did not respond	31,239,755	22,798,913
Blacksburg Transit	3,882,540	4,351,386	4,692,326	1,465,873
San Francisco Bay Area Rapid Transit District	420,000 average weekday ridership	414,000 average weekday ridership	411,000 average weekday ridership	288,271 average weekday ridership
Charlotte Area Transit System	Did not respond	Did not respond	Did not respond	Did not respond
San Diego Metropolitan Transit System	88,222,101	85,409,732	85,357,495	71,224,080
Tampa Bay Area Regional Transit Authority	Did not respond	Did not respond	Did not respond	1,000
Manchester Transit Authority	405,819	410,080	392,605	309,558
Janus Developmental Services	Did not respond	Did not respond	65,029	38,971
CyRide	6,658,027	6,572,065	6,121,023	4,577,482
Metro Transit–Minnesota	Did not respond	Did not respond	Did not respond	Did not respond
Metropolitan Transit Authority of Harris County	566,356,993	621,857,949	581,575,901	Did not respond

Participant Information—Agency Name	How many riders did your agency handle in the most recent years? Agency Ridership—2017	How many riders did your agency handle in the most recent years? Agency Ridership—2018	How many riders did your agency handle in the most recent years? Agency Ridership—2019	How many riders did your agency handle in the most recent years? Agency Ridership—2020
Regional Transportation Commission of Southern Nevada	Did not respond	Did not respond	64,000,000	56,000,000
Long Beach Transit	22,000,000	22,000,000	Did not respond	Did not respond
Los Angeles County Metropolitan Transportation	397,491,365	382,795,186	370,480,743	213,090,477
Los Angeles Department of Transportation–Transit	19,734,177	18,394,160	19,292,677	14,068,012
Washington Metropolitan Area Transit Authority	886,000	848,000	857,000	234,000
Gold Coast Transit District	Did not respond	Did not respond	Did not respond	Did not respond
San Francisco Municipal Transportation Agency	Did not respond	Did not respond	Did not respond	Did not respond
Valley Metro	65,958,074	66,784,913	64,380,334	52,528,517
Halifax Transit	19,150,000	19,060,000	28,900,000	30,400,000
Chatham Area Transit	Did not respond	Did not respond	Did not respond	Did not respond
North Central Regional Transit District	Did not respond	Did not respond	Did not respond	Did not respond
Birmingham–Jefferson County Transit Authority	Did not respond	Did not respond	Did not respond	Did not respond
Green Mountain Transit	Did not respond	Did not respond	Did not respond	Did not respond
Jacksonville Transportation Authority	Did not respond	Did not respond	Did not respond	Did not respond

Social Media Platforms

Q5. What social media platforms does your agency use? Please check all that apply.
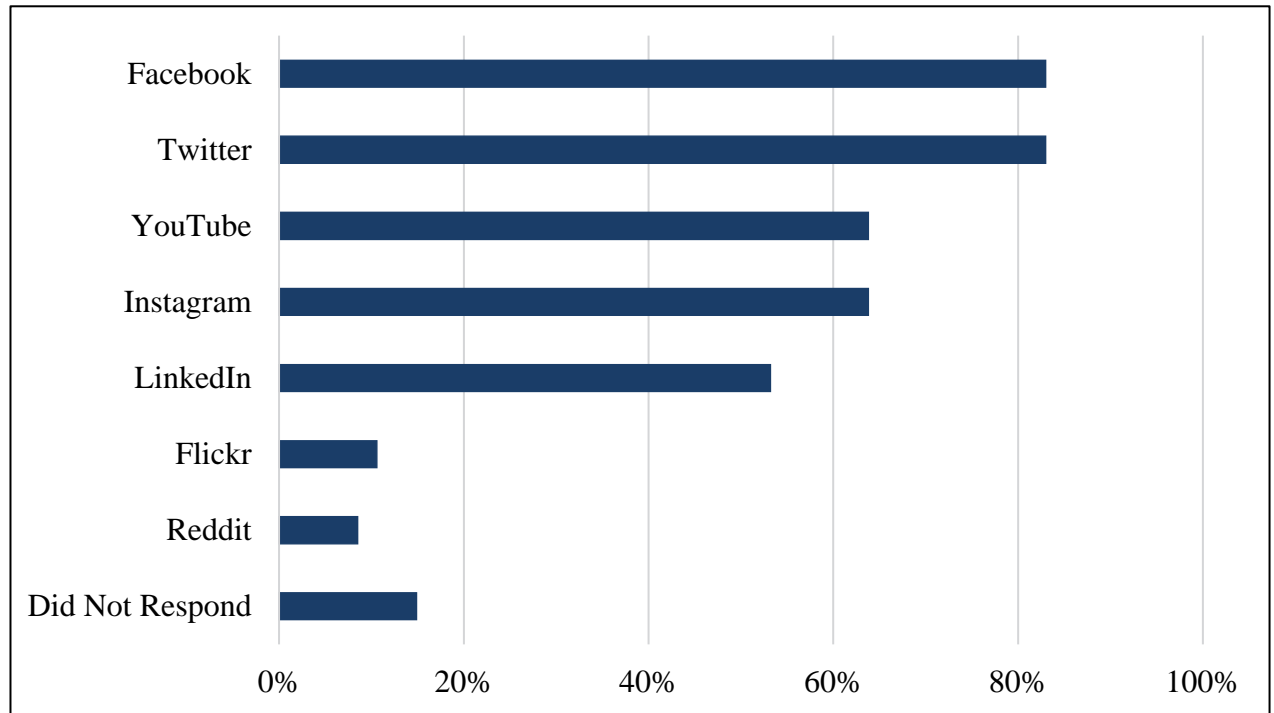
NOTE: Multiple responses were allowed. Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 17.   Responses to Q5 (What social media platforms does your agency use?).

Q6. Indicate the type of information your agency provides via the following major social media platforms. Please check all that apply.
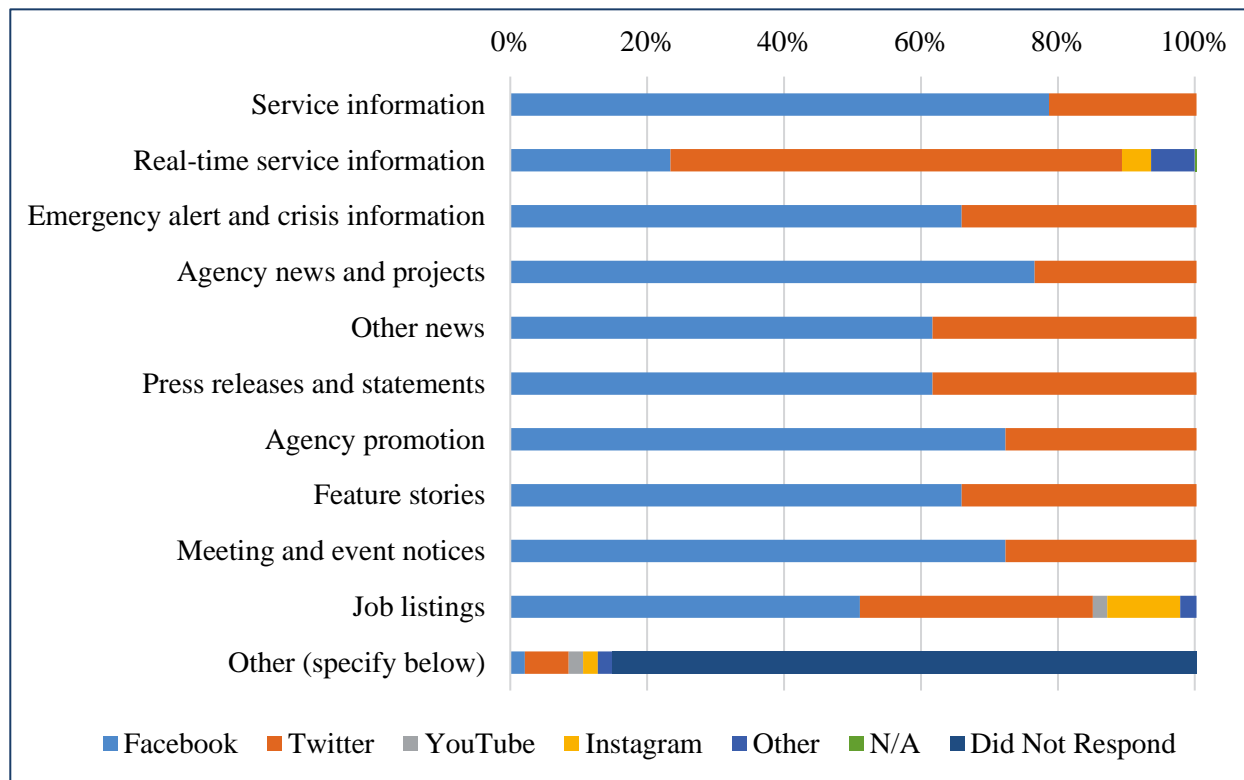
NOTE: Multiple responses were allowed. Row percentages are based on the total number of entries for each row. Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 18.   Responses to Q6 (Indicate the type of information your agency provides via the following major social media platforms).

List any other types of content provided via the major social media platforms listed above.

Table 14.   Q6 open text responses.

Agency	Q6 Open Text Responses
Transit Authority of Northern Kentucky	Local community partnerships and events
Central Midlands Regional Transit Authority	Recordings of board meetings, Reimagine the COMET public forums, and the COMET Academy classes are on YouTube
Community Transit	Livestreaming, videos with captions, and short-form videos
Rhode Island Public Transit Authority	Surveys (customer service)
TriMet	Giveaways, photos, and polls
Kansas City Area Transportation Authority	Weather, policies, and highlights of places to travel: art, restaurants, community events, etc.
San Joaquin Regional Transit District	How-to information, health and safety updates, and customer and employee features

Agency	Q6 Open Text Responses
San Francisco Bay Area Rapid Transit District	Polls on Twitter Live Twitter Town Halls or Ask Me Anything–type Q&As BART provides customer-service-type responses and creates cases and service tickets from tweets for action by staff.
San Diego Metropolitan Transit System	Resharing of rider posts and videos (Twitter and Instagram)
Tampa Bay Area Regional Transit Authority	Weekly emailed newsletter with transit news and information
Metropolitan Transit Authority of Harris County	Campaigns in collaboration with other agencies related to safety, transit, etc. Content promoting the METRO's podcast COVID-19 safety reminders
Long Beach Transit	General information, news, and job listings
Los Angeles County Metropolitan Transportation	We post short videos to Instagram, Twitter, and Facebook. We use YouTube mainly to host longer videos on projects and programs. We have two primary Twitter handles. One is for service alerts, and the other is for general agency news and usually links to Metro's blog, *The Source*, or to a pertinent page on Metro.net, the agency's website. We sometimes stream our events to Facebook Live.
Los Angeles Department of Transportation—Transit	Policy updates (a rider conduct reminder like "wear a mask onboard") Branding and marketing of our services (pictures of buses and destinations)
Washington Metropolitan Area Transit Authority	Sustainability, user-generated content, and art in the transit program
Halifax Transit	Historical facts, COVID-19 safety information, passenger policies and guideline reminders, facts about fleet, ridership numbers, and updates on capital projects

Q7. How frequently does your agency update the following?

Table 15.   Frequency of updating social media content.

Type of Information	Several Times a Day (%)	Once a Day (%)	A Few Times a Week (%)	Once a Week (%)	A Few Times a Month (%)	Once a Month (%)	N/A (%)	Did Not Respond (%)
Service information	25.53	4.26	19.15	8.51	19.15	2.13	4.26	17.02
Real-time service information	40.43	2.13	10.64	0.00	8.51	2.13	14.89	21.28
Emergency alert and crisis information	6.38	8.51	10.64	2.13	19.15	14.89	17.02	21.28
Agency news and projects	4.26	8.51	21.28	14.89	21.28	8.51	2.13	19.15
Press releases and statements	2.13	2.13	14.89	8.51	21.28	21.28	8.51	21.28
Agency promotion	10.64	10.64	17.02	14.89	10.64	12.77	2.13	21.28
Feature stories	2.13	2.13	17.02	17.02	17.02	12.77	10.64	21.28
Meeting and event notices	2.13	34.04	6.38	2.13	29.79	0.00	4.26	21.28
Other news	4.26	8.51	14.89	14.89	19.15	6.38	8.51	23.40
Other (specify below)	0.00	2.13	0.00	0.00	0.00	2.13	4.26	91.49

NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$).

List any other types of content and identify the frequency of updates.

Table 16.   Q7 open text responses.

Agency	Q7 Open Text Responses
SouthWest Transit	We primarily use social media to share changes in service and other information that may affect our customers' schedules.
Transit Authority of Northern Kentucky	Community partnerships and events (weekly) Get to know your driver info (weekly)
Central Midlands Regional Transit Authority	Our service information is real time. Therefore, there may be some weeks that go by in which there is no social media content. Other times, we may post service information several times a week on social media and on our website.

Agency	Q7 Open Text Responses
Community Transit	Rider alerts (via GovDelivery), 1–2 times a month for construction E-newsletter, 1 time a month Livestream on Facebook Live, 1 time a month or 2 times a month on service change months
Kansas City Area Transportation Authority	Rider/employee profiles—weekly Mural Mondays—weekly Service changes—quarterly (outside of the pandemic)
Salem Area Mass Transit District (Cherriots)	We post surveys to social media whenever we are conducting one. Our social media channels outperform our other surveying methods.
San Francisco Bay Area Rapid Transit District	Held a Twitter townhall at least once a year Do Twitter polls a few times a year Customer service responses and follow-up on Twitter, as needed
Charlotte Area Transit System	Glossy photos New services
Washington Metropolitan Area Transit Authority	Sustainability—a few times a month
Halifax Transit	Because of the topography of the Halifax region, we have created Snow Plan routes—alternate routing for conventional bus routes to navigate around hills and other tricky areas. These are tweeted during winter storm events, along with a link to Snow Plan alternate routing on our website: https://www.halifax.ca/transportation/halifax-transit/service-disruptions/snow-plan.

Q8. How many people are instrumental in reviewing social media content before posting?
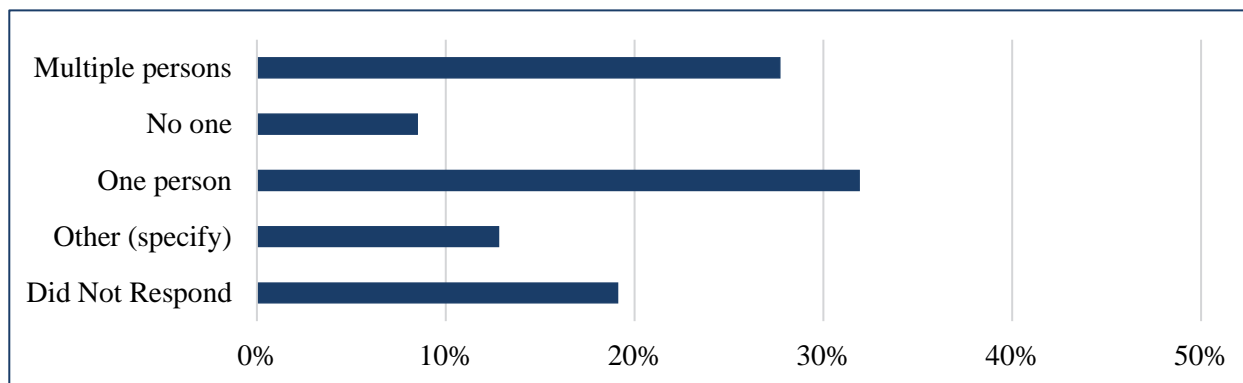
NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 19.   Responses to Q8 (How many people are instrumental in reviewing social media content before posting?).

Q9. Who is responsible for creating and circulating the posts on different social media platforms? Please check all that apply.
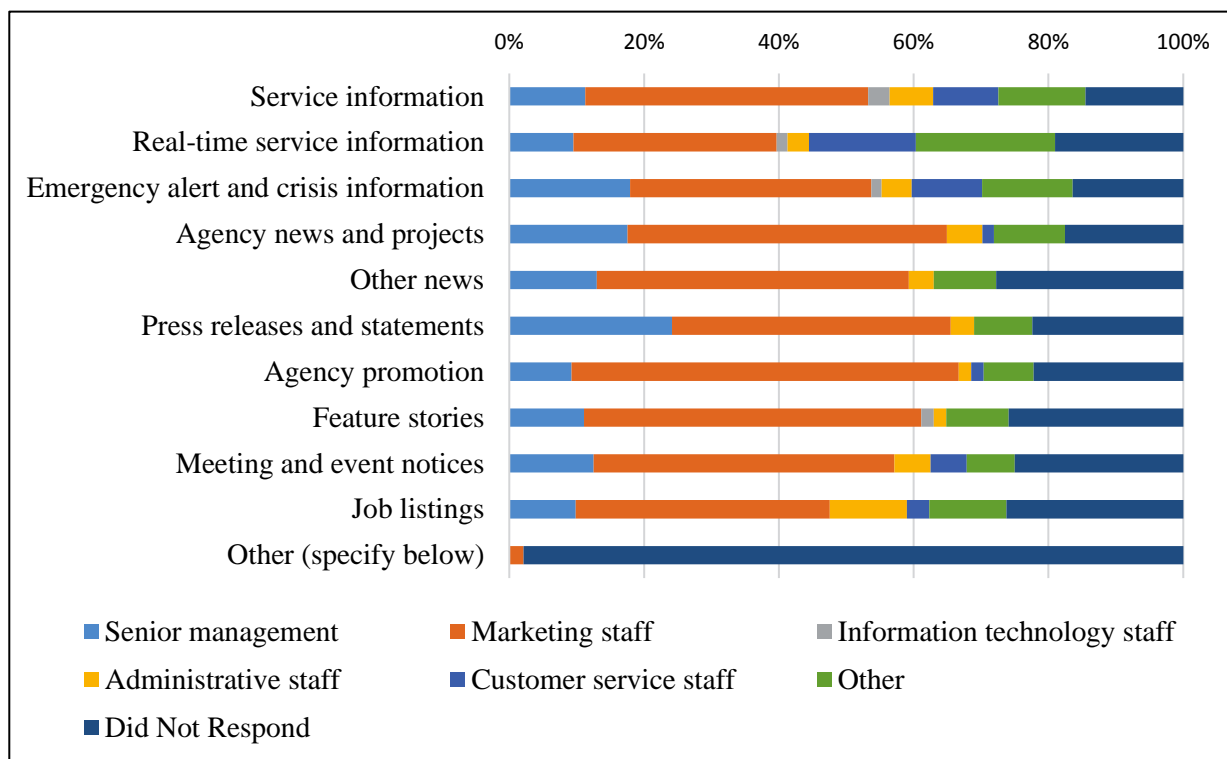
NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$).

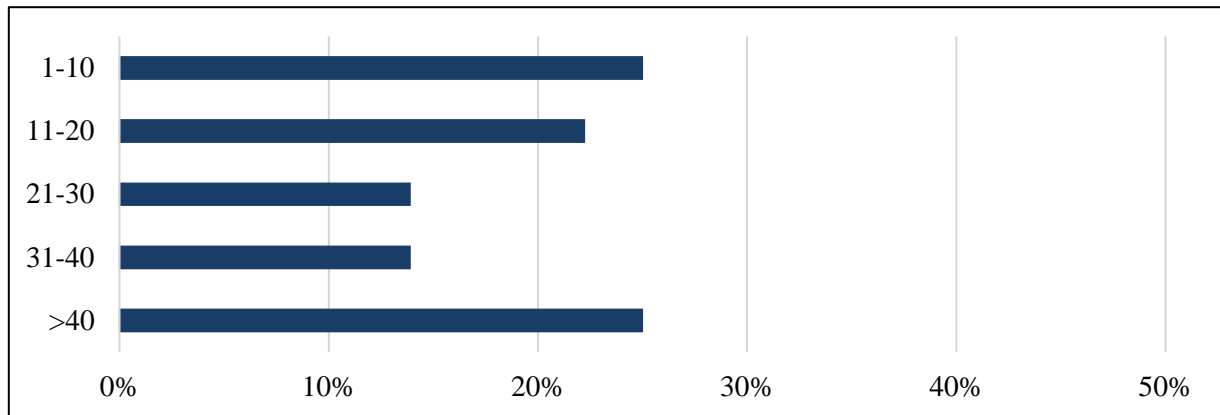**Figure 20.   Responses to Q9 (Who is responsible for creating and circulating the posts on different social media platforms?).**

Q10. How many man hours does your agency dedicate toward managing social media?

NOTE: Responses are expressed as a percentage of total responding agencies ($N = 36$).

Figure 21.   *Responses to Q10 (How many man hours does your agency dedicate toward managing social media?).*

Q11. What is the budget allocated for social media engagement?

Table 17.   Q11 open text responses.

Agency	Q11 Open Text Responses
Saginaw Transit Authority Regional Services	Very limited budget for boosting posts, maybe $200/year
SouthWest Transit	Don't currently have a budget allocated for social media engagement.
Greater Cleveland Regional Transit Authority	$15,000 a year—normally set for campaign-specific marketing.
Community Transit	Have a contract with Sprout Social for its services. Our customer experience/digital experience budget pays for it. Budget for boosts and paid social media ads come out of separate communications and marketing budgets.
Rhode Island Public Transit Authority	There is no set budget allocated for social media engagement. We spent $100,000 last year.
Southwest Ohio Regional Transit Authority/Metro	None beyond the salary of the e-media coordinator
Lowcountry Regional Transportation Authority	The only budget is included within the payroll budget for marketing staff. Social media promotions, if paid for, are unbudgeted.
Greater Peoria Mass Transit District	There is not a specific budget for social media engagement.
TriMet	About $7,000–$8,000 per month between budgets for promoting posts and tools like Zendesk
Kansas City Area Transportation Authority	Less than $5,000 annually
Miami-Dade Transit	It depends; in recent fiscal years, the budget has been about $2,000–$5,000 a year for social media promotion.

Agency	Q11 Open Text Responses
Salem Area Mass Transit District (Cherriots)	We do not budget specifically for it. We spend roughly $500 a year on social media paid promotions across all channels. We could easily quadruple that (at least) without negatively influencing the overall budget.
Mountain Line Transit Authority	Fluctuates as needed—we try to keep our social media costs down.
Capital Metropolitan Transportation Authority	Fluctuates per project
Blacksburg Transit	$15,000 annually
San Francisco Bay Area Rapid Transit District	Our social media engagement platform (Salesforce Social Studio) is part of a larger Salesforce package that includes more than social media, so it is difficult to determine the budget for social media engagement specifically.
San Diego Metropolitan Transit System	We have a $3,000-per-year social media reporting tool (Sprout Social), but other tools for calendar/scheduling (Asana and Hootsuite) are free. Ad spending varies and is typically part of a larger ad buy.
Tampa Bay Area Regional Transit Authority	Very little
CyRide	No specific funding is dedicated for social media engagement.
Metropolitan Transit Authority of Harris County	All social media posts and engagements are organically generated.
Regional Transportation Commission of Southern Nevada	Approximately $15,000 annually
Long Beach Transit	About $75,000 annually
Los Angeles County Metropolitan Transportation	Approximately $510,000 annually for the salaries of the six people (manager included) in the Public Relation's Digital Division, which manages our social media, blog, and digital content. We also spend about $13,100 per year on a Hootsuite subscription, about $1,100 per year for a Shutterstock photo and video subscription, and about $3,000 to $5,000 per year purchasing or maintaining our photo and video equipment.
Valley Metro	There is no specific amount set for social media engagement. This is wrapped into the budget for each campaign.

Agency Considerations

Q12. How important is each of the following considerations in your agency's decision to use social media?

Table 18.   Importance of social media in achieving certain goals.

Goal	Not Important at All (%)	Slightly Important (%)	Important (%)	Very Important (%)	Weighted Average
Communicate with current and prospective riders	0.0	2.1	12.8	66.0	3.8
Crisis communication	0.0	0.0	21.3	57.4	3.7
Improve agency image	0.0	0.0	31.9	44.7	3.6
Distribute general information	0.0	2.1	34.0	44.7	3.5
Improve customer satisfaction	0.0	2.1	31.9	44.7	3.5
Promote agency services	0.0	8.5	25.5	44.7	3.5
Distribute real-time service information	4.3	8.5	17.0	44.7	3.4
Increase ridership	2.1	10.6	27.7	40.4	3.3
Prevent misinformation	0.0	12.8	36.2	31.9	3.2
Public health information	4.3	10.6	29.8	36.2	3.2
Citizen engagement	0.0	10.6	40.4	27.7	3.2
Recruit and keep staff	6.4	42.6	12.8	14.9	2.5
Other (specify below)	2.1	0.0	0.0	2.1	2.5

NOTE: Responses are expressed as a percentage of total surveyed agencies ($N = 47$). To better compare these responses, a weighted average was calculated using a four-point scale where 1 = "not important at all" and 4 = "very important." "N/A" and "did not respond" responses were excluded.

Indicate any other agency considerations for social media use and their level of importance.

Table 19.   Q12 open text responses.

Agency	Q12 Open Text Responses
Community Transit	Livestreaming on a regular basis and hosting board meetings virtually allows community members to participate when it is convenient for them and leads to more participation for those who cannot attend in person. Livestreams "live on" as a recorded video that can be repurposed, viewed, and shared later on social media.
Greater Peoria Mass Transit District	Used to be informational to riders and nonriders
Salem Area Mass Transit District (Cherriots)	The main purposes during non-pandemic times are to improve the public perception of Cherriots and increase ridership.
San Francisco Bay Area Rapid Transit District	Customer service—very important Media relations—important
Charlotte Area Transit System	Being a staple in the community Being a part of the community conversation Promoting our future projects Getting public input
San Diego Metropolitan Transit System	We use social media to keep our finger on the pulse of sentiment/trending topics related to public transit, especially with local elected officials and engaged citizens.
Metropolitan Transit Authority of Harris County	Social media plays a very important role because it allows direct consumer-to-agency contact.
Los Angeles County Metropolitan Transportation	Audio announcements on buses and trains can be difficult to hear. Social media allows us to communicate directly to anyone who has a smartphone, even in the subway. Social media also allows the traditional media to easily see what's happening at the agency.
Los Angeles Department of Transportation–Transit	Twitter is used for real-time updates of services (detours, delays, etc.). Instagram and Facebook are used for brand development and customer engagement. Our website is used for more in-detail service alerts, news, policy announcements, and press releases.
Washington Metropolitan Area Transit Authority	Media management Social media is extremely important to telling our corporate story and engaging with our riders.
Halifax Transit	At the moment, COVID-19 safety measures are a large part of our communications.

Q13. How effective have your agency's social media activities been in achieving the following goals?

Table 20.   Effectiveness of social media in achieving certain goals.

Goal	Not Effective at All (%)	Slightly Effective (%)	Effective (%)	Very Effective (%)	Weighted Average
Other (specify below)	0.0	0.0	0.0	2.1	4
Distribute general information	0.0	2.1	46.8	29.8	3.4
Crisis communication	0.0	6.4	40.4	31.9	3.3
Communicate with current and prospective riders	0.0	8.5	44.7	27.7	3.2
Public health information	2.1	12.8	36.2	25.5	3.1
Promote agency services	2.1	14.9	38.3	23.4	3.1
Distribute real-time service information	4.3	19.1	23.4	25.5	3
Improve agency image	0.0	19.1	48.9	8.5	2.9
Citizen engagement	2.1	29.8	29.8	17.0	2.8
Prevent misinformation	0.0	34.0	34.0	10.6	2.7
Improve customer satisfaction	0.0	34.0	31.9	10.6	2.7
Increase ridership	10.6	29.8	23.4	2.1	2.3
Recruit and keep staff	12.8	40.4	10.6	2.1	2

NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$). To better compare these responses, a weighted average was calculated using a four-point scale where 1 = "not effective at all" and 4 = "very effective." "N/A" and "did not respond" responses were excluded.
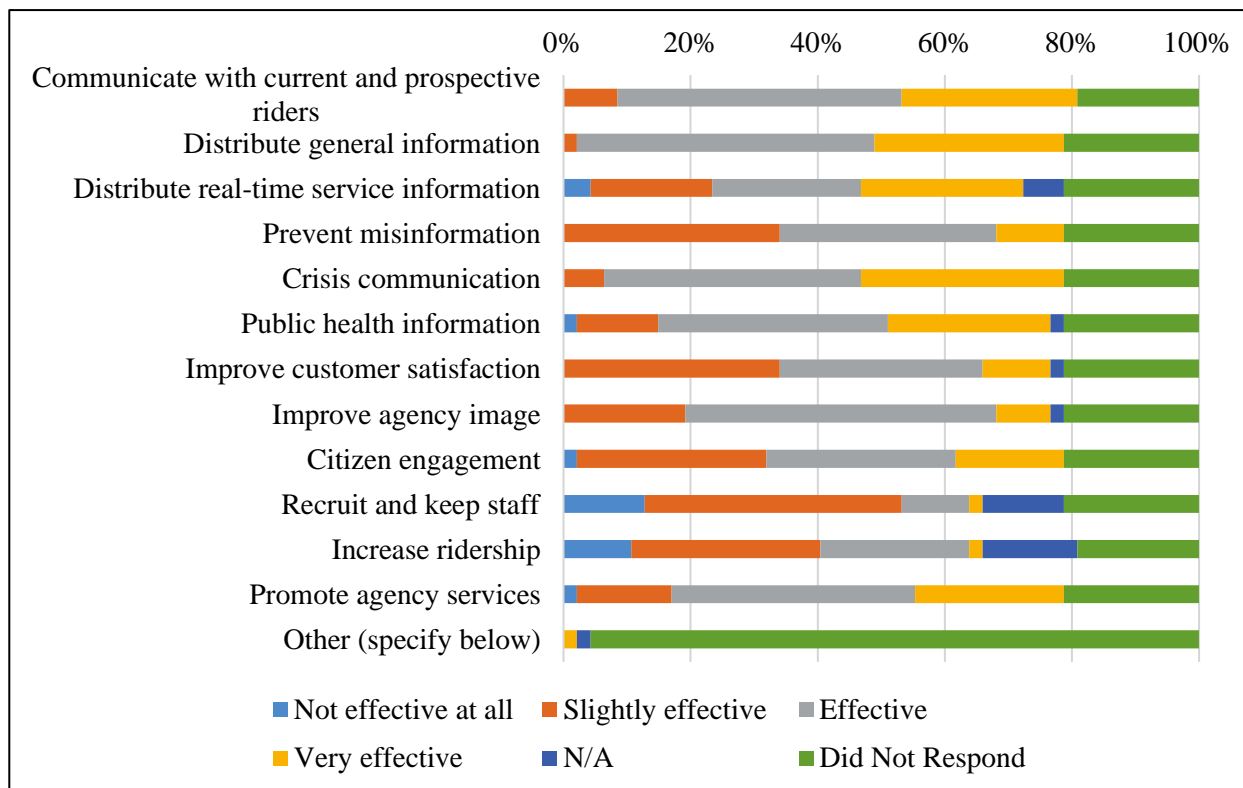
NOTE: Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 22.   Responses to Q13 (How effective have your agency's social media activities been in achieving the following goals?)

How effective has social media been in meeting other objectives?

Table 21.   Q13 open text responses.

Agency	Q13 Open Text Responses
Saginaw Transit Authority Regional Services	I think social media has been a good tool to get information to partner agencies that serve riders.
SouthWest Transit	Social media has been an effective tool, among others, to keep our customers informed about our services.
Community Transit	It has helped get our press releases shared and noticed by traditional media outlets.
Southwest Ohio Regional Transit Authority/Metro	Social media has been effective in satisfying senior management and board expectations.
Greater Peoria Mass Transit District	Social media has provided us with a channel to communicate quickly, especially during the COVID-19 pandemic.
Salem Area Mass Transit District (Cherriots)	Social media has met our objectives well. However, it can be very difficult to measure the effectiveness of social media when we have the same objectives for other media channels, both digital and traditional.
Charlotte Area Transit System	We have set goals to simply engage our audience and create brand awareness that have been successful.

We also wanted our audience to stay informed about our COVID measures, and that has been successful. |

| Agency	Q13 Open Text Responses
Metropolitan Transit Authority of Harris County	Social media has been effective for marketing and being able to interact with the public directly.
Los Angeles County Metropolitan Transportation	As a government entity, we have a responsibility to reach out to taxpayers and customers to inform them of what is happening with our agency. As a tool of good government, social media has been effective for connecting people with information that they want. Even as ridership has dropped at our agency since 2014, our social media followers have been increasing.
Washington Metropolitan Area Transit Authority	We have constant growth each year in our accounts, and many stakeholder groups look to our channels for information. It's also a place to manage the media as our corporate Twitter feed often serves as our on-the-record statement.
Valley Metro	We currently do not keep track of the effectiveness of social media, just impressions and sentiment.
Halifax Transit	We are endeavoring to increase our social media reach by expanding to other platforms. We know that only a small portion of the population uses Twitter, our main channel of communication. By using more popular platforms, we hope to reach a larger audience and affect greater change.

Q14. Which social media metrics are important to your agency? Please check all that apply.
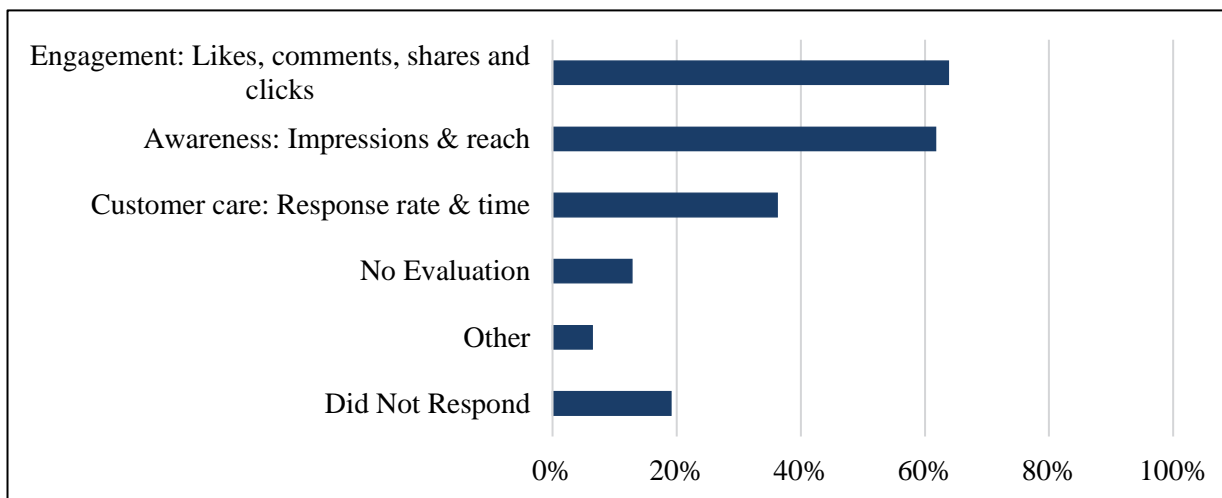
NOTE: Multiple responses were allowed. Responses are expressed as a percentage of total participating agencies (*N* = 47).

Figure 23.   Responses to Q14 (Which social media metrics are important to your agency?).

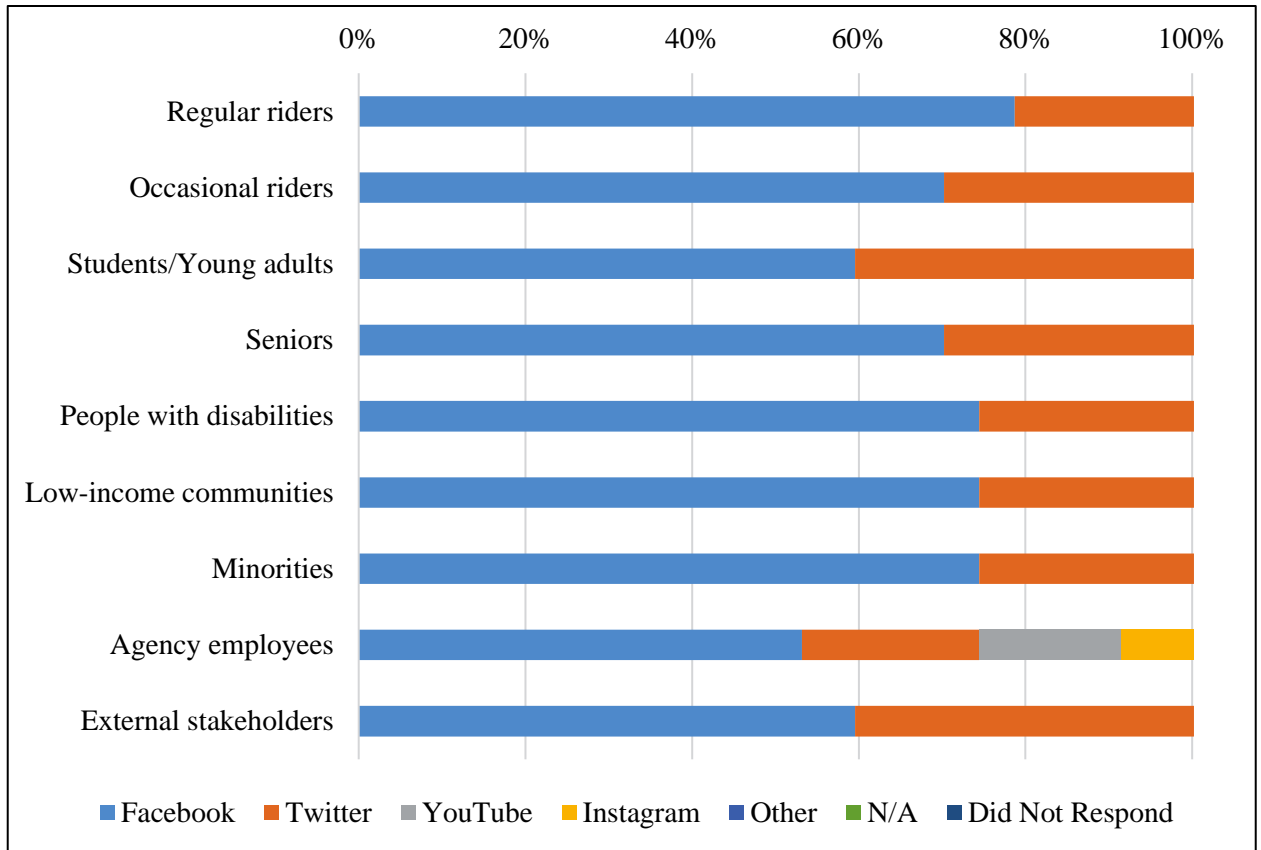Q15. How does your agency measure the effectiveness of your social media success? Please check all that apply.
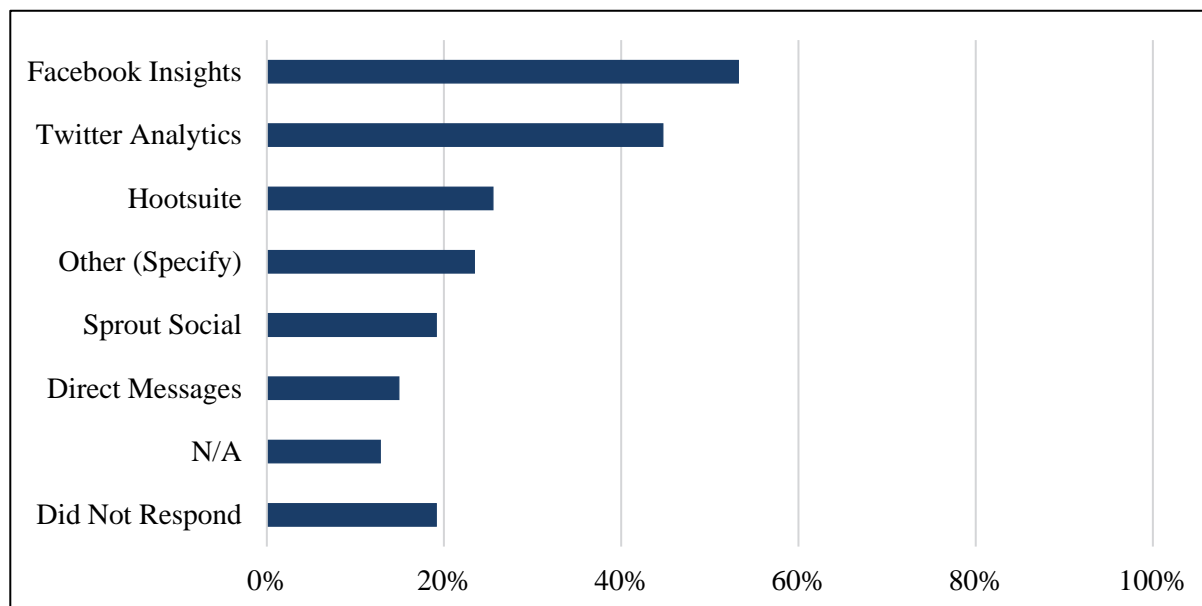
NOTE: Multiple responses were allowed. Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 24.   Responses to Q15 (How does your agency measure the effectiveness of your social media success?).

Q16. Which social media platforms does your agency use to reach specific audiences? Please check all that apply.

Table 22.   Social media use focusing on target riders.

Target Riders	Facebook (%)	Twitter (%)	YouTube (%)	Instagram (%)	Other (%)	N/A (%)	Did Not Respond
Regular riders	78.7	66.0	27.7	42.6	6.4	0.0	17.0
Occasional riders	70.2	61.7	31.9	48.9	2.1	0.0	21.3
Students/young adults	59.6	57.4	36.2	57.4	4.3	0.0	19.1
Seniors	70.2	44.7	21.3	23.4	8.5	6.4	17.0
People with disabilities	74.5	57.4	23.4	36.2	8.5	4.3	19.1
Low-income communities	74.5	59.6	25.5	44.7	6.4	2.1	21.3
Minorities	74.5	61.7	25.5	48.9	4.3	0.0	21.3
Agency employees	53.2	21.3	17.0	23.4	23.4	14.9	21.3
External stakeholders	59.6	59.6	34.0	40.4	23.4	0.0	23.4

NOTE: Multiple responses were allowed. Responses are expressed as a percentage of total participating agencies ($N = 47$).

Figure 25. Responses to Q16 (Which social media platforms does your agency use to reach specific audiences?).

Q17. Is your agency effective in reaching specific audiences with the help of social media platforms?

NOTE: Responses expressed as a percentage of total participating agencies ($N = 47$).

Figure 26.   Responses to Q17 (Is your agency effective in reaching specific audiences with the help of social media platforms?).

Q20. [IF Q19=YES] If yes, how often?

NOTE: Responses expressed as a percentage of total participating agencies ($N = 47$).

Figure 29.   Responses to Q20 (If yes, how often?).

Q21. Is there an employee conduct policy (in social media) at your agency?
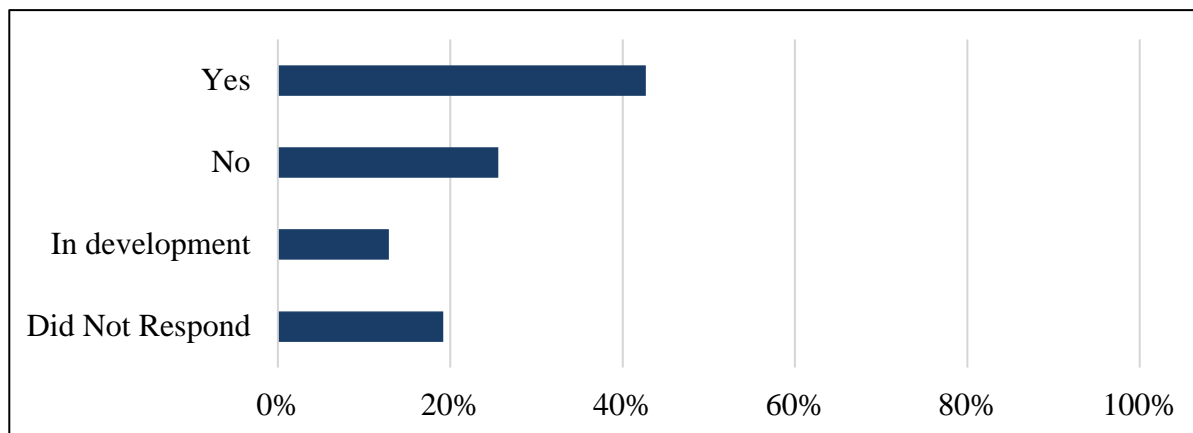
NOTE: Responses expressed as a percentage of total participating agencies ($N = 47$).

Figure 30.   Responses to Q21 [Is there an employee conduct policy (in social media) at your agency?].

Q22. If possible, please upload the employee conduct policy document your agency follows.

Five agencies uploaded documents.

Q23. Is there a social media strategy policy at your agency?
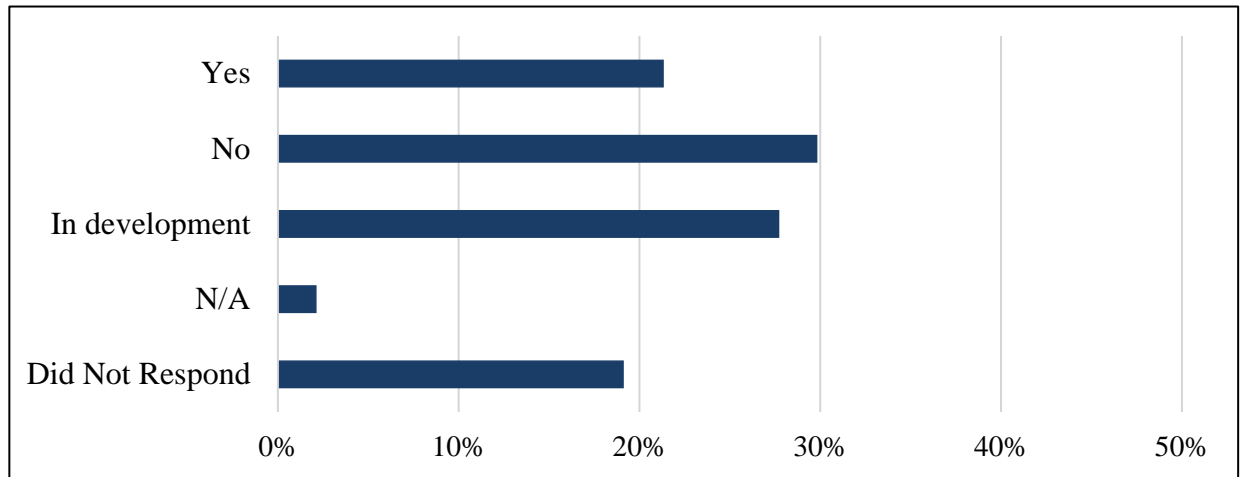
NOTE: Responses expressed as a percentage of total participating agencies ($N = 47$).

Figure 31.   Responses to Q23 (Is there a social media strategy policy at your agency?).

Q24. If possible, please upload the social media strategy policy document your agency follows.

Five agencies uploaded documents.

Q25. Please describe the changes made (by your agency) in social media information sharing due to the ongoing COVID-19 pandemic.

Table 23.   Q25 open text responses.

Agency	Q25 Open Text Responses
Saginaw Transit Authority Regional Services	We are posting more public health information than we ever have before.
SouthWest Transit	We have concentrated on making sure our customers are aware that SW Transit is doing everything possible to ensure the safety of all of our customers and drivers. Social media is one avenue of communication that we take advantage of when getting information out to our customers when it comes to COVID-19.
Transit Authority of Northern Kentucky	We have been posting more, trying to be more transparent, and getting information out to people quicker. We have also used this time to reassess our social media plans and make changes to focus on new marketing efforts post-COVID.
Greater Cleveland Regional Transit Authority	Frequent updates More graphics to capture attention Developed videos to convey information

Agency	Q25 Open Text Responses
Community Transit	When sharing information about COVID-19 and how the agency is working to protect riders, posts are reviewed by the public information officer and approved by our security manager who heads up our incident command system team. All other non-COVID-related information is posted to social media by communications and marketing as usual.
Southwest Ohio Regional Transit Authority/Metro	We have had to create a template for informing the public about operators who test positive for COVID. The template aims to provide information to riders to help them feel informed while protecting the identity of the affected employees.
Lowcountry Regional Transportation Authority	Our social media messaging has shifted significantly, and our frequency of posting has increased.
Greater Peoria Mass Transit District	We provide regular updates on service and facility changes and personal protective equipment requirements.
TriMet	Previously, public safety and health information was not something we really discussed on our accounts. Now, it accounts for the bulk of our content.
Metropolitan Atlanta Rapid Transit Authority	There is a greater focus on using visual content to communicate COVID-19 responses with photos and videos of cleaning and other safety improvements. We are no longer trying to attract choice riders to the system.
Kansas City Area Transportation Authority	We moved missed trips off of social media.
Miami-Dade Transit	We aim to publish about three to four COVID-19–related posts (pertaining to service adjustments, cleaning, new procedures, and so forth) per month. At the start of the pandemic, we had multiple posts per week, but now as things return to normalcy, we continue to visibly promote our adjustments, just less frequently.
METRO Regional Transit Authority	There has been a heavier push on social media with COVID-19–related announcements.
Salem Area Mass Transit District (Cherriots)	We have completely stopped promoting ridership. Instead, we focus on continuing to improve our public image in our community.
Greater Richmond Transit Company	We share a lot of information on our website but not necessarily on social media. We post every COVID case among staff or contractors online. Social media is used to remind riders of COVID-specific policies, like the mask mandate.

Agency	Q25 Open Text Responses
Mountain Line Transit Authority	We update our service levels daily on Twitter/Facebook. We also use social media to relay any CDC guidelines related to transportation and being in public. It has become crucial to informing our riders of policy changes. We have gained followers in the last year, potentially because of the output of crucial information.
San Joaquin Regional Transit District	Due to the current public health order that public transportation is for essential needs only, we do not promote leisure activities or events with our services.
Capital Metropolitan Transportation Authority	Our social media use has shifted mainly toward "transit is safe" initiatives and promotions of the cleanliness of vehicles and facilities, community support, and so forth.
Blacksburg Transit	Less riders = less information = less engagement
San Francisco Bay Area Rapid Transit District	We are frequently sharing daily ridership numbers and train crowding details.
Charlotte Area Transit System	More frequent posting Greater focus on what we're doing on the operations side
San Diego Metropolitan Transit System	In general, there were not new rules as a result of COVID, but there was an increase in the ways we already used social (education, awareness, and customer service). One change that we saw was an uptick/spike in employee (operator) comments about onboard rules and enforcement/concerns for their health, primarily via Facebook. Other than that, we have used social media throughout the pandemic as an educational tool to keep riders informed of any service changes as a result of the pandemic, as well as ongoing health requirements onboard, and to respond to customer complaints and questions. We also did a large ad buy to educate riders on our Clean Ride effort and to recognize employees.
Tampa Bay Area Regional Transit Authority	Our staff worked remotely.
CyRide	Extensive additional information was posted regarding safety efforts, including disinfection, rear-door boarding, social distancing, and mask wearing. Normal posting continued during this time, but efforts focused on updating passengers on new policies as they came into effect.
Metropolitan Transit Authority of Harris County	A COVID-19 safety tip and graphic are included with every service alert that is issued. Press releases are issued updating riders with new confirmed cases. COVID-19 safety reminders are shared on social media frequently.

Agency	Q25 Open Text Responses
Regional Transportation Commission of Southern Nevada	Sharing of resources available by counties, cities, and health districts for testing and vaccination sites
Long Beach Transit	Increased communication including greater use of Twitter
Los Angeles County Metropolitan Transportation	We adjusted the tone. Whereas in the past we would sometimes try to be funny or irreverent, we tried to just stick with the facts during the pandemic. The reason: both our core customers and our frontline staff were hit hard by the pandemic from both a health and income perspective, and this wasn't the time to be anything less than serious.
Los Angeles Department of Transportation–Transit	Previously, Instagram and Facebook posts were reviewed by marketing staff and posted online. During the pandemic, senior management reviews posts drafted by marketing staff for information appropriateness, policy compliance, and accuracy of information.
Washington Metropolitan Area Transit Authority	When COVID-19 first started, most social media engagement slowed or stopped unless it was a service/corporate announcement or related to public health. Then we warmed up on our more fun channels like Instagram and Facebook with content for people who miss Metro and things to keep our brand relevant. Today, we're back at a regular pace of sharing news, projects, regular service announcements, engaging/praising stakeholders, and thinking about the future.
Valley Metro	We increased the number of posts surrounding public health and other agency changes to keep riders more informed, but the overall goals did not change due to COVID.
Halifax Transit	We placed a greater focus on sharing specific COVID-19 safety measures (e.g., provincial mask mandate, blocked-off seating areas, boarding and exiting from rear doors, seating capacity limitations, and restrictions for travelers arriving at the airport). At the beginning of the pandemic, service was reduced by roughly 30%, which was communicated broadly via social media (shared by municipal social media channels).

Q26. Below are some commonly identified barriers to using social media. Indicate the importance of each component in your agency's decision to use social media.
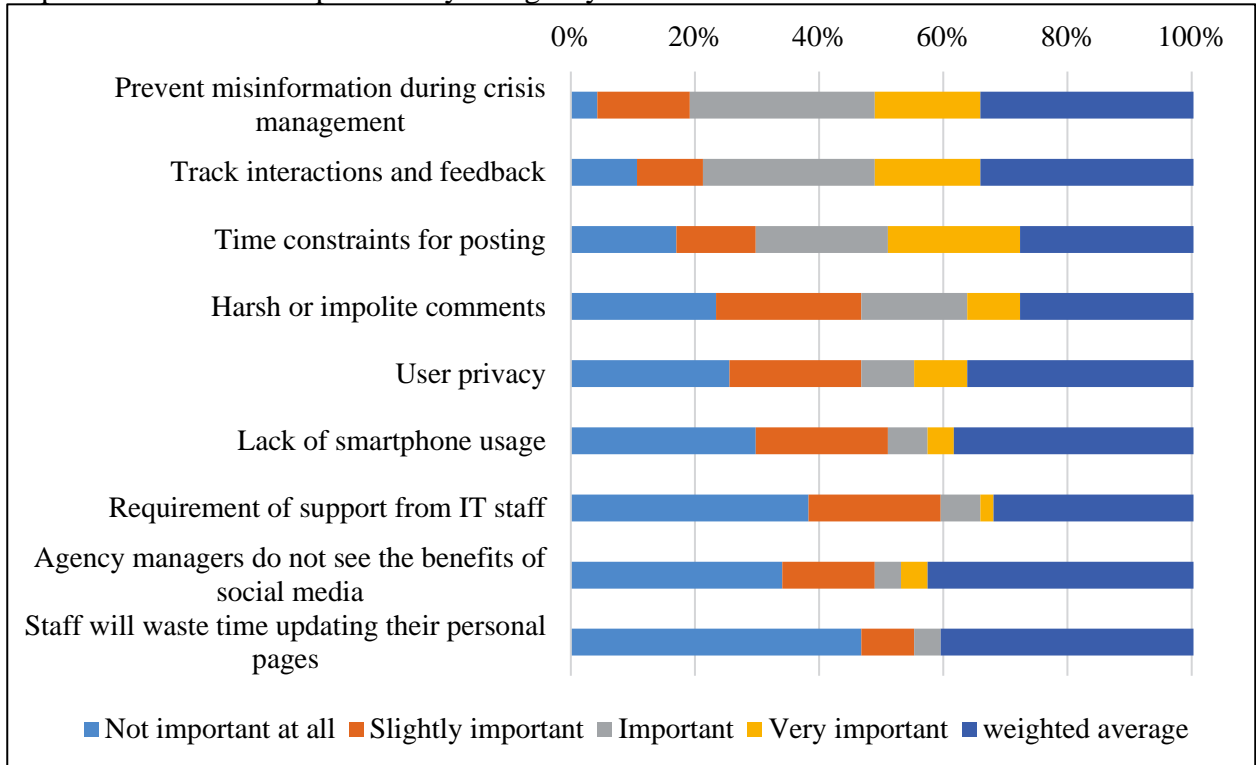
NOTE: Responses expressed as a percentage of total participating agencies (*N* = 47).

Figure 32.   Responses to Q26 (Indicate the importance of each component in your agency's decision to use social media).

Q27. If there are any other specific barriers and challenges, please describe below.

Table 24.   Q27 open text responses.

| Agency	Q27 Open Text Responses
Central Midlands Regional Transit Authority	We use social media as a tool for direct customer service communication. People are very vocal, especially on Facebook.
Community Transit	Limited "seats" for Sprout Social (or whatever software is used to create or schedule social media posts) Limited bandwidth for uploading video (technical issues) from home Needing more time to create a social media content calendar and creating content that is engaging Social media can take a back seat to other communications priorities.
Southwest Ohio Regional Transit Authority/Metro	Represented employees criticizing the agency—without a clearly defined policy and agency support, there is sometimes nothing we can do about it.
Greater Peoria Mass Transit District	Receiving complaints and response time for comments/questions. There is only one person (me) monitoring our social media, so it is difficult to always respond in a timely manner.

Agency	Q27 Open Text Responses
Metropolitan Atlanta Rapid Transit Authority	Lack of staffing to manage channels and interactions
Salem Area Mass Transit District (Cherriots)	We have had a few incidents of staff posting comments conveying their frustration and anger with the district on our posts. Due to our lack of employee social media conduct policy and the strength of the union, there are no repercussions when this happens.
Greater Richmond Transit Company	Social media feeds may not be delivered to the user in real time, which impacts the relevance and timeliness of the information we post.
San Joaquin Regional Transit District	Lack of sufficient resources to create quality social media content within the department
San Francisco Bay Area Rapid Transit District	There are no barriers. We fully recognize the important role of social media, and we have full buy-in to prioritize it and to be bold.
San Diego Metropolitan Transit System	Our main challenge is access to social alerts/responses beyond our typical weekday 8 a.m. to 5 p.m. hours. We don't have dedicated staff outside that time, and so responses lag over the weekend or evenings (sometimes staff will check and respond); and making sure crises in those periods are proactively handled/monitored.
Los Angeles County Metropolitan Transportation	The agency's customer surveys in the past have indicated that just over half our customers have smartphones, which is a concern. That said, the 2020 customer experience survey showed that 73% of our riders have smartphones and another 23% have cell phones. This has never deterred us from pursuing social media, but we also knew that we couldn't rely on social media alone to communicate with riders and stakeholders. Otherwise, I think across the agency there is widespread agreement that we need to be a presence on social media, although I think it is fair to say there are different opinions on how best to approach social media.
Los Angeles Department of Transportation–Transit	It is difficult to curate and build a distinct and consistent brand identity with internal staff, management, and marketing consultants all providing input and green-lighting content.
Washington Metropolitan Area Transit Authority	10 years ago, your previous issues were all barriers. However, today, not many are barriers. In fact, we are looking to grow our digital team to better use social media.

Q28. Can people with disabilities access your agency's social media sites?

Table 25. Accessibility of social media sites.

Accessibility to People with Disabilities	Agency Response (%)
Yes, completely accessible	29.8
Partially accessible	40.4
No, not accessible	0.0
In process of making it accessible	2.1
N/A	8.5
Did not respond	19.1

Q29. Does your agency actively handle direct messages or mentions from social media users?
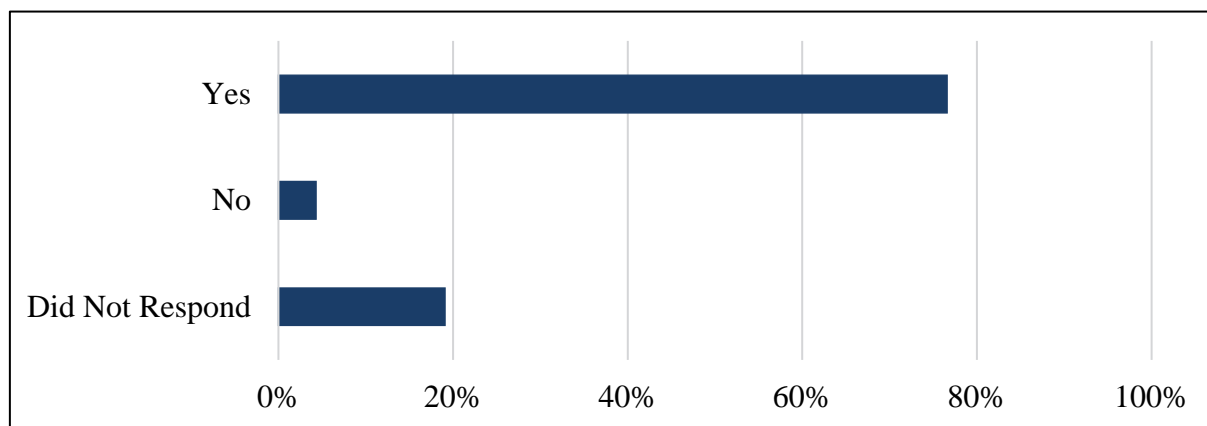
NOTE: Responses expressed as a percentage of total participating agencies *(N = 47)*.

Figure 33. Responses to Q29 (Does your agency actively handle direct messages or mentions from social media users?).

Q30. How does your agency archive social media interactions?
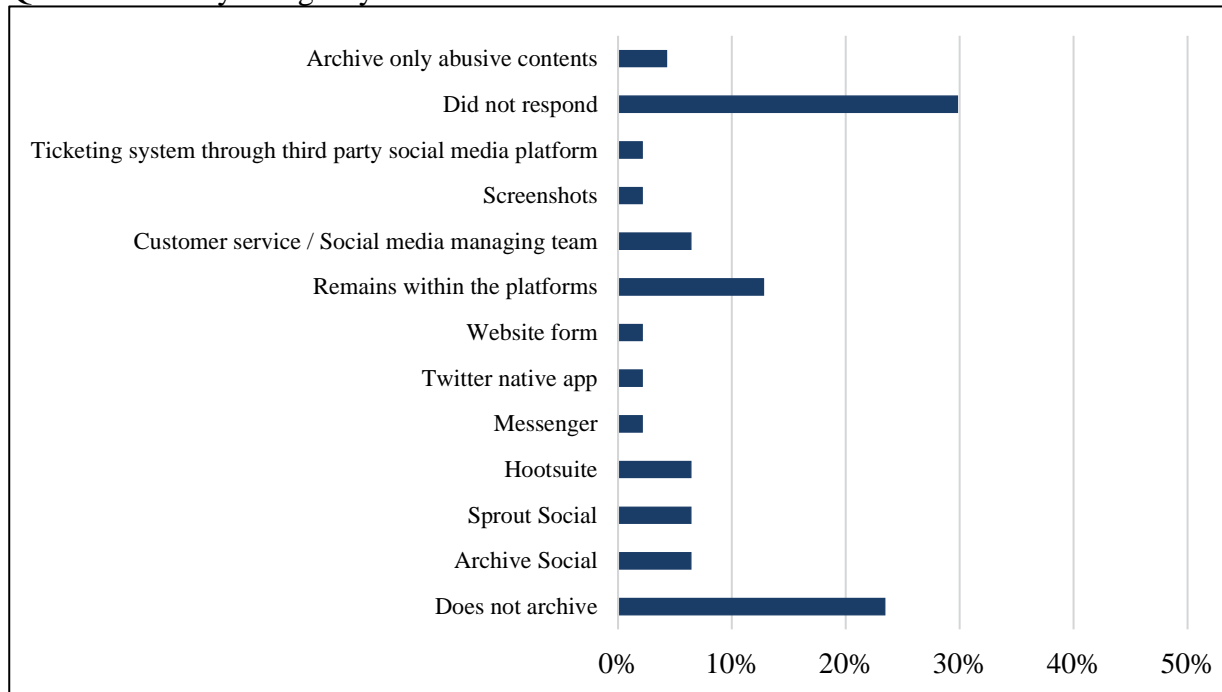
NOTE: Responses expressed as a percentage of total participating agencies ($N = 47$).

Figure 34.   Responses to Q30 (How does your agency archive social media interactions?).

Lessons Learned and Future Needs

Q31. What are your social media goals over the next 1–3 years?

Table 26.   Q31 open text responses.

Agency	Q31 Open Text Responses
Saginaw Transit Authority Regional Services	Continue to grow our outreach Start a real-time communication method more focused on riders, possibly through text
SouthWest Transit	Grow as our customer usage grows Use social media to increase our ridership
Transit Authority of Northern Kentucky	Build our social media audience Make it a place to receive real-time updates Focus on pushing marketing efforts
Greater Cleveland Regional Transit Authority	Increase engagement Use for improving public image/support Increase impressions

Agency	Q31 Open Text Responses
Central Midlands Regional Transit Authority	To grow annually by 10–15% (by followers)
Community Transit	Increase followers Create more videos Create more content overall
Rhode Island Public Transit Authority	No current goals
Southwest Ohio Regional Transit Authority/Metro	Grow to 1 million followers
Lowcountry Regional Transportation Authority	Increase followers and interactions Explore new platforms, such as TikTok
Greater Peoria Mass Transit District	Increase views/use Improve content Develop more robust strategies
TriMet	Reach more minority communities Find ways to reach and influence nonriders Make our content more accessible
Metropolitan Atlanta Rapid Transit Authority	Add staff to actively manage the distribution of service information and to bring customer service representatives to handle complaints directly on social media
Miami-Dade Transit	Increase following Decrease complaints Improve agency perception
Salem Area Mass Transit District (Cherriots)	Continue to gain followers, improve our public image, and increase ridership post-COVID We also will be educating the public on the safety of public transportation as it relates to the spread of disease, specifically COVID.
Greater Richmond Transit Company	Grow followers over time Improve manpower behind the scenes to support real-time service alerts on Twitter and our mobile app
Mountain Line Transit Authority	To engage our community more We have a relatively new Facebook page and not many followers for the ridership we put out. It would be nice to see them on our social pages.

Agency	Q31 Open Text Responses
Blue Water Area Transportation Commission	N/A
San Joaquin Regional Transit District	Increase engagement and followers
Capital Metropolitan Transportation Authority	Restructure what information goes on what channel Hire someone specifically for social media strategy Revamping/cleansing of our YouTube channel
Blacksburg Transit	Increase engagement
San Francisco Bay Area Rapid Transit District	To keep up with new trends and to always be on the forefront
Charlotte Area Transit System	Increase reach and audience
San Diego Metropolitan Transit System	Gain better social media analytics (tracking through Sprout is new this past year) Increase following on social platforms while maintaining and increasing engagement rates Use tools to rebuild trust/ridership following COVID-19 pandemic through active community engagement and transparency
Tampa Bay Area Regional Transit Authority	We are a very small staff with a limited budget for outreach, so we have no long-term social media goals.
Manchester Transit Authority	No specific goals have been identified. Social media is not a major communication strategy within our system.
CyRide	Increase the frequency of postings Develop a general social media policy for the agency Expand the usage of social media for marketing purposes
Metro Transit–Minnesota	We want to foster deeper social content collaboration with regional partners and our customers. We want to grow our role as a community leader and supporter of social equity throughout the region. Finally, we want to help build a post-COVID growth in ridership.
Metropolitan Transit Authority of Harris County	Create a strong presence on social media Continue to generate organic engagement Create high-quality content for both entertainment and educational purposes

Agency	Q31 Open Text Responses
Regional Transportation Commission of Southern Nevada	Grow followers and engagement
Long Beach Transit	To increase student engagement and senior engagement
Los Angeles County Metropolitan Transportation	To continue to expand our followers on all streams and to use social media to keep taxpayers informed, aware of our agency, and at times even entertained
Los Angeles Department of Transportation–Transit	Build our follower base and develop a visual identity
Washington Metropolitan Area Transit Authority	Continued engagement Better storytelling More video productions
Valley Metro	Increase followers on all platforms
Halifax Transit	Grow existing followers Increase customer engagement Expand our social media reach to other platforms Increase our customer service information about our programs

Q32. Please describe any lessons learned by your agency that could be useful to other transit agencies.

Table 27. Q32 open text responses.

Agency	Q32 Open Text Responses
SouthWest Transit	Make sure you have someone dedicated to social media and to communicate how social media is working for the company and its goals.
Central Midlands Regional Transit Authority	It is important to set boundaries and expectations; otherwise, people may inbox you at all times—whether you are available or not. We are creating a system where users know when they can expect a response and how often the sites are monitored.
Community Transit	Integrate livestreaming and video into your social media and communications overall. Repurpose your content as much as possible. Be open to trying new things (platforms, memes, and so forth).
Rhode Island Public Transit Authority	Respond to all comments, even negative ones. Many users have changed their attitude and even apologized for their comments once we responded.
Southwest Ohio Regional Transit Authority/Metro	Develop policies early so you do not play catch-up. Get full senior management support.

Agency	Q32 Open Text Responses
	Do not get engaged in online "flame wars." You will never win. Let others come to your defense—they will.
Greater Peoria Mass Transit District	Respond to all comments/questions, whether they are positive or negative. Highlight positive things happening at your agency. Use videos and pictures as much as possible.
TriMet	Do not talk about yourself; talk about the rider. A rider-focused perspective is essential, and few do it. Many government agencies just talk about themselves, which does not provide valuable content that riders will subscribe to.
Greater Richmond Transit Company	Simply responding to a tag shows you are listening and take their comments seriously. We log every tag whether it is a complaint or commendation.
San Joaquin Regional Transit District	Keep text out of graphics for Instagram and Facebook. Lifestyle-type content works great on Instagram and can be as simple as short videos of your buses in motion, taken with your phone. Instagram users like content that looks like user-generated content over professionally produced–looking content.
Blacksburg Transit	Do not fear user interaction or negative comments.
San Francisco Bay Area Rapid Transit District	Treat your social media managers like spokespeople. Give them the keys and knowledge base to be successful. Hire strong writers with a public relations background. Have a strong social listening program so you know what messages land well with our audience or desired audience.
Charlotte Area Transit System	Be authentic Be transparent
Janus Developmental Services	Continue to share
Metro Transit–Minnesota	Responding quickly to customer questions and feedback on social media is a large part of how we gauge our customer service efforts. Having a 24-7 team to handle these inquiries, as part of our Transit Control Center, has been invaluable in using social media to address real-time concerns and issues throughout our transit system.
Metropolitan Transit Authority of Harris County	Create relationships with riders to build a trusting bond. Distribute information, comments, and complaints to departments within your agency to improve your riders' experience. Be as transparent as possible with information that is released to the public.
Long Beach Transit	Multiple forms of communication are critical during important events, like the pandemic or social events such as demonstrations.

Agency	Q32 Open Text Responses
Los Angeles County Metropolitan Transportation	It is better to be interesting than boring.
Los Angeles Department of Transportation–Transit	Keep the access to social media accounts to a few staff. Enough that things can be posted during an emergency, but not too many to where our social media accounts become vulnerable. We had a situation recently where our social media staff did not realize they were still logged into the agency account and "liked" inappropriate content, which showed up as part of our social media activity.
Washington Metropolitan Area Transit Authority	Keep pressing forward. Negativity is part of being on social [media] and should not be a barrier. Have corporate buy-in by coaching, teaching, and embedding digital folks. Invest in good software to manage the channels. Invest in good mobile technologies (iPhone, cellular connectivity, and Adobe) for swift content creation.
Valley Metro	Do not fuel the fire! Sometimes it is better to stay out of heated topics in the comment sections and let the transit champions support your agency in the comments.
Halifax Transit	Use technology (Trapeze TransitMaster) to provide real-time service alerts via Twitter.
SouthWest Transit	Make sure you have someone dedicated to social media and to communicate how social media is working for the company and its goals.

Q33. Please describe any suggestions on improving social media interactions in the future.

Table 28.   Q33 open text responses.

Agency	Q33 Open Text Responses
Central Midlands Regional Transit Authority	Set a goal/benchmark of responding within a reasonable amount of time. Have other staff help in monitoring after hours and on weekends on a rotating basis.
Community Transit	Be timely. Be authentic; speak like a human, not a corporation. Be transparent; be honest.
San Francisco Bay Area Rapid Transit District	Thread your content on Twitter instead of posting one sentence and a link to more information. Keep conversations public to be transparent. Unless someone starts a DM, keep it open; do not ask them to DM you. Have different strategies for each platform to tap into what works for each one.

Agency	Q33 Open Text Responses
Charlotte Area Transit System	Have a social media coordinator who can devote all their time to the strategy.
Los Angeles County Metropolitan Transportation	Do not be condescending with riders, and know when to break off interactions going poorly.
Los Angeles Department of Transportation–Transit	User-generated content is great, such as photos of our transit vehicles taken by the public and shared with our agency. We ask permission to use these photos. It is a great way to generate content, and oftentimes, the quality of the submitted content is very good. It is also a great way to engage with our social media followers.
Halifax Transit	Have more proactive communications to customers about upcoming service changes or program information. Increase community outreach to engage and inform marginalized populations (people of color, people with disabilities, and seniors). Expand social media platforms to reach a broader audience.

APPENDIX D

Social Media Metrics of the Case Examples

Table 29.   Social media metrics of the case example agencies.

Agencies	Twitter Handle	Followers	Tweets	Retweets	Likes	Replies
San Francisco Bay Area Rapid Transit District	@SFBART	316,100	36,689	169,613	559,456	49,442
Miami-Dade Transit	@iridemdt	13,900	35,388	11,079	17,177	7,040
CyRide	@cyride	2,048	1,602	805	1,448	97
Transit Authority of Northern Kentucky	@tankbus	442	475	365	1,038	56
Central Midlands Regional Transit Authority	@catchthecomet	1,082	2,336	1,810	2,554	305
Capital Metropolitan Transportation Authority	@capmetroatx	24,900	24,906	31,772	47,897	10,276
Halifax Transit	@hfxtransit	59,100	16,901	34,935	35,780	11,152

NOTE: The metrics provided in this table were collected until June 30, 2021. The start data were the first tweet published by these agencies.

Table 30.   Most retweeted tweets by the case example agencies.

Agencies	Twitter Handle	Most Retweeted Tweet	Date	Twitter Metrics
San Francisco Bay Area Rapid Transit District	@SFBART	Murder suspect identified in MacArthur stabbing. John Cowell is considered dangerous. Please call 911 if spotted. RIP Nia Wilson. We will bring this suspect to justice. Our thoughts are with the family and friends.	7/23/2018	Retweets: 14,631 Replies: 351 Likes: 7,305

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Agencies	Twitter Handle	Most Retweeted Tweet	Date	Twitter Metrics
Miami-Dade Transit	@iridemdt	ALERT: Miami-Dade Transit services will not operate tomorrow, Sunday, May 31. All services, including Metrorail, Metromover, Metrobus, and the GO Nightly program will be suspended Sunday.	5/30/2020	Retweets: 209 Replies: 41 Likes: 273
CyRide	@cyride	CyRide is encouraging all riders to use the back door to get on and off the bus. The front door is still available for those who are not able to safely board through the back. We will not be collecting fares. Let's keep our social distance. #farefree #socialdistancing #CyRide	3/18/2020	Retweets: 26 Replies: 0 Likes: 89
Transit Authority of Northern Kentucky	@tankbus	Effective Monday, April 6, 2020, TANK will be suspending service on the Southbank Shuttle route due to COVID-19 impacts. Until then, stay safe and stay healthy and stay home! #TeamKentucky #HealthyAtHome	4/3/2020	Retweets: 10 Replies: 1 Likes: 3
Central Midlands Regional Transit Authority	@catchthecomet	RIDE THE VOTE! YES! You Heard Right! The COMET is FREE on Election Day! Tuesday, November 6, 2018	10/8/2018	Retweets: 15 Replies: 0 Likes: 12
Capital Metropolitan Transportation Authority	@capmetroatx	The #ProjectConnect recommended system plan has been approved by the #CapMetro board and @austintexasgov #ATXCouncil members!	6/10/2020	Retweets: 99 Replies: 19 Likes: 421
Halifax Transit	@hfxtransit	Due to forecast blizzard conditions, Halifax Transit will not operate bus or ferry service tomorrow (February 13th). #hfxtransit	2/12/2017	Retweets: 352 Replies: 19 Likes: 111

Abbreviations and acronyms used without definitions in TRB publications:

A4A	Airlines for America
AAAE	American Association of Airport Executives
AASHO	American Association of State Highway Officials
AASHTO	American Association of State Highway and Transportation Officials
ACI–NA	Airports Council International–North America
ACRP	Airport Cooperative Research Program
ADA	Americans with Disabilities Act
APTA	American Public Transportation Association
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATA	American Trucking Associations
CTAA	Community Transportation Association of America
CTBSSP	Commercial Truck and Bus Safety Synthesis Program
DHS	Department of Homeland Security
DOE	Department of Energy
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAST	Fixing America's Surface Transportation Act (2015)
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GHSA	Governors Highway Safety Association
HMCRP	Hazardous Materials Cooperative Research Program
IEEE	Institute of Electrical and Electronics Engineers
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
ITE	Institute of Transportation Engineers
MAP-21	Moving Ahead for Progress in the 21st Century Act (2012)
NASA	National Aeronautics and Space Administration
NASAO	National Association of State Aviation Officials
NCFRP	National Cooperative Freight Research Program
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
NTSB	National Transportation Safety Board
PHMSA	Pipeline and Hazardous Materials Safety Administration
RITA	Research and Innovative Technology Administration
SAE	Society of Automotive Engineers
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
TCRP	Transit Cooperative Research Program
TDC	Transit Development Corporation
TEA-21	Transportation Equity Act for the 21st Century (1998)
TRB	Transportation Research Board
TSA	Transportation Security Administration
U.S. DOT	United States Department of Transportation

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